

Connectedness with Mangrove forest "Sundarbans": Perceptions and Behaviors of the forested community 'Shora' in Bangladesh

Sajal Roy



Master of Philosophy in Gender and Development

Spring 2013

Faculty of Psychology
Department of Health Promotion and Development

*“The woods are lovely, dark and deep,
But I have promises to keep,
And miles to go before I sleep,
And miles to go before I sleep.”*

Robert Frost

Acknowledgements

Profound admiration goes to the female and male area inhabitants of the village, Shora, Satkhira, Bangladesh, who gave me their invaluable time in sharing their stories with great enthusiasm and candor. I very much appreciate the manner they welcomed me into their homes and lives during the fieldwork. The time I passed in the fieldwork at Shora was a highly enriching experience, which taught me a great deal and the memories of which I shall treasure for all time. I am grateful to the gatekeeper Mr. Monirul Islam, who extended unlimited helpful efforts throughout the data collection process, and managed local foods for me. I would like to thank the senior journalist Subhas Chowdhury from NTV, and Mr. Akash Rahman, the executive director of a local NGO 'Joyaer' who coordinated in managing a comfortable accommodation at Shora, and gave me valuable information for my endeavors. My gratitude also goes to Md. Rafiqul Islam, chair of Department of Peace and Conflict Studies, University of Dhaka, Bangladesh, for his insightful comments into the environmental security issues of Bangladesh.

I am particularly indebted to my supervisor Dr. Maurice B. Mittlemark, for the support and intellectual guidelines he provided me right from the writing of the project proposal to the end phase of the thesis write up process. His comments, guidance and suggestions facilitated my consistent improvement upon my work every step of the way. The patience, as well as devotion he displayed towards improving my academic write up used in the research work undoubtedly is a remarkable phenomenon to me. Thanks to Dr. Haldis Haukanes for her valuable comments on the chapters presented during seminars held at the university, which encouraged me to further improve the chapters. I would also like to acknowledge the consistent academic support of Dr. Marit Tjomsland, who guided me properly in writing the introduction and conclusion section of the thesis. I also owe a great deal to GAD program coordinator Kristin Sennest, for her administrative endeavors throughout my stay in Norway, and particularly to Tone Lund-Olsen, for accepting my poster for presentation in the master relay held at the Centre for Women and Gender Research at the University of Bergen.

As a student of the Quota Program, without the support of Lanekassen, my studies and stay in Bergen would not have been possible. Therefore, I am very grateful to Lanekassen, and the student coordinator, Ana Veronica Cordova. In addition, especially, I would like to appreciate the administrative staff of the Meltzer Research Foundation to bear the expenses of the research conferences I participated during my studies in Bergen. Last, but certainly not least, very special thanks to my parents, my fiancée and friends in Bangladesh for the support and inspiration they have given me during the entire process of fieldwork and thesis writing. Without their love and affection as well as best wishes for me, the challenging task of completing my thesis would not happen. In fact, I am grateful for their presence in my life, as always.

Contents

Acknowledgements	3
List of Abbreviations	7
Glossary of Bengali words	8
Preface	10
Summary	11
Chapter One:	12
Thesis overview and Background of the Research Setting	12
Introduction	12
Research Problems	12
Purpose and thesis questions	13
Study objectives	14
Historical context of the study	14
Brief description of the study site	16
Rationale	17
Conceptual clarification of key terms	18
Thesis organization	19
Chapter Two:	21
Review of the literature on women's indigenous knowledge about forest, gender relations in forestry research, and gender in the environmental security discourse	
Introduction	21
Women's indigenous knowledge about forest	21
Gender relations in forestry research	25
Gender in the environmental security discourse	26
Point of departure	28
Chapter Three:	30
Theoretical Framework	30
Introduction	30
Standpoint Theory	30
Feminist Political Ecology Theory	33
Summing Up	37

Chapter Four:	38
Methodology	38
Introduction	38
Research method	38
Tools for data collection	39
Sampling procedure	40
Recruitment of assistants	41
Field diary	42
Structure of the gathered data	42
<i>Observation data</i>	42
<i>Unstructured interview data</i>	42
<i>Focused Group Discussion data</i>	43
Triangulation	44
Data analysis	45
Problems encountered in the field	50
The role of researcher	51
Ethical considerations	52
<i>Informed consent</i>	53
<i>Anonymity and Confidentiality</i>	53
 Chapter Five:	 54
Sundarbans forest at a glance: Informants' Perspectives	54
Introduction	54
Acquaintanceship to the forest	54
Forest going practice	58
<i>'Jele-Baoali' women</i>	58
<i>Divorced women</i>	60
<i>Married women</i>	62
<i>Men's forest going habit</i>	63
Forest serves basic needs of life	65
Unlawful ways	67
Customary use of the forest resources	69
Changes in the use of forest resources	70
Summing Up	73
 Chapter Six:	 74
Women's Behaviors towards Sundarbans forest	74
Introduction	74
Primary resource user	74
Decision making in between market and collector "Women"	78
Women as 'natural preserver' of the Sundarbans	80

Summing Up	83
Chapter Seven: Human Security, Sundarbans and Survival at Shora	84
Introduction	84
Human Security	84
Informants call for Environmental Security	90
Women's special care to Sundarbans forest	92
Summing Up	94
Chapter Eight:	95
Concluding Remarks	95
<i>References</i>	98
Appendix 1: In-depth Interview Guide	108
Appendix 2: Key Words used in Focused Group Discussion	110
Figures	111
Map of Bangladesh	111
Map of Shamnagar, Satkhira	112

List of Abbreviations:

BBS	Bangladesh Bureau of Statistics
CIFOR	Centre for International Forestry Research
CFCs	Chlorofluorocarbons
GAD	Gender and Development
FAO	Food and Agricultural Organization
FGD	Focused Group Discussion
IFAD	International Fund for Agricultural Development
GoB	Government of Bangladesh
IUCN	International Union for Nature and Natural Conservations
MoEF	Ministry of Environment and Forest
n.d	No Date
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UP	Union Parisad
UV-B	Ultraviolet B
WB	World Bank
WHO	World Health Organization
WWF	Worldwide Fund for Nature

Glossary of Bengali words:

<i>Aila</i>	A cyclone
<i>Allah</i>	Muslim's God
<i>Bada</i>	Local name of Sundarbans
<i>Bagh</i>	Tiger
<i>Bagdha</i>	Shrimp only found in saline water
<i>Baishak</i>	First month of Bengali year
<i>Bedhobapolle</i>	Shelter home for divorced women
<i>Borse</i>	Fishing instrument
<i>Chattro</i>	Last month of Bengali year
<i>Chira</i>	Bangladeshi food
<i>Chati</i>	Large shrimp
<i>Dingy</i>	Tiny boat
<i>Dowa</i>	Muslim's prayer
<i>Easy Bike</i>	Three wheeled motor vehicle
<i>Furi</i>	Local fish collector
<i>Gita</i>	Holy volumes for Hindu people
<i>Jal</i>	Net
<i>Jala-Baoalie</i>	Women fishing community
<i>Kawra</i>	Fruit found in Sundarbans
<i>Kholpatua</i>	Name of a river
<i>Kortabakte</i>	Male head
<i>Lakre</i>	Fuel
<i>Lungi</i>	Man's cloth
<i>Mabonbibi</i>	Goddess
<i>Mach</i>	Fish
<i>Mal</i>	Local name of Sundarbans
<i>Mawali</i>	Honey gatherer
<i>Mayabiehorin</i>	Beautiful Deer
<i>Meku</i>	Water insect
<i>Modantak</i>	Bangladeshi bird
<i>Muri</i>	Bangladeshi food

<i>Ochol</i>	Fish separating technique from water-insects
<i>Pantavat</i>	Fermented boiled rice
<i>Passea</i>	Salty sea fish
<i>Pona</i>	Shrimp
<i>Powa</i>	Name of a fish
<i>Renu</i>	Small shrimp
<i>Sidr</i>	Name of a cyclone
<i>Shora</i>	Name of a village
<i>Sofeda</i>	Bangladeshi fruit
<i>Union</i>	The lowest level of administrative unit of Bangladesh

Preface

My admittance to the MPhil program in Gender and Development, at the University of Bergen have honed the effective learning of the core conceptual foci of development underlining the local values and practice of people, and application of the gained theoretical and practical knowledge in the research endeavors. It came to reality when I took part in the graduate course *Critical Perspectives on Development Processes: From Economic Growth to Human Development (GAD 302)*. In addition, my participation in several graduate courses, ‘*Critical Perspectives on Environment and Development*, and *Gender Analysis: Critical Cross-Cultural Approaches (GAD 303)*’ critically trained the theoretical aspects of gender issues concerning society, natural environment and development, as well as political ecology. The lecture session *Gender and Climate change issues* guided to go through argumentative and thought provoking literature (e.g., Dankelman & Jansen 2010; Denton 2002; Alam, Rakkibu and Rahman 2010). Therefore, the learning output had deepened my analytical understanding of human-environment relation, forest resource and human security related issues.

I was motivated by the lecture ‘*Lost in Translation? Black Feminism, Intersectionality and Social Justice*’ of Dr. Patricia Hill Collins, given at the Swiss International Summer School in Gender Studies 2012 at the University of Lausanne, Switzerland. As a Master’s student of the summer school, I had to attend the intensive class followed by group discussion on reading contextual power relation in terms of gender and environment. The lecture incorporated theoretical aspects of ‘Standpoint Theory; Feminist Political Ecology Theory’ that seemed relevant for my Master’s thesis. Nevertheless, my academic background in *Women and Gender Studies* predominantly built up the conceptual clarity on women as the agent of environmental development, and their affiliation with the forest resources in South Asian countries: Bangladesh, Nepal and India. The gender dimension of natural resource management and environmental security for the disaster prone setting of Bangladesh is a keystone in the discourse of ‘Gender and Development.’

Born and raised in a patriarchal social structure in an urbane setting, Satkhira, a district of Bangladesh, I was encouraged to a great extent to equip academic profile with special attention to human-environment relation and forest. Throughout the higher secondary schooling and bachelor education in Bangladesh, I was actively involved in the scouting movement and community development campaign organized by the Bangladesh Scouts. The long term community service I consecutively volunteered with in 2001, 2003, 2005 and 2009 for the disaster victims to the remote coastal villages initially motivated me to explore people’s perspective of cyclones and ecological security. From the voluntary experiences, I realized a great deal of ultra-poor rural women and men completely rely on natural resources for survival. While writing the graduate thesis ‘Women entrepreneurs in land conservation for ecological security at Dumuria, Bangladesh’ for the completion of the partial requirement of the Master degree in Women and Gender Studies, University of Dhaka, Bangladesh; the informants’ voice throughout the research process repeatedly emphasized the incorporation of their perceptions about the forest and its contribution to their daily lives. For satisfying the knowledge gap emerged from the graduate thesis, I plan to develop the current project.

Summary

The recurrence of environmental calamities is causing the degradation of the ‘Sundarbans’ forest in Bangladesh. The thesis aims to discover the forest societies’ perceptions and behaviors about the ‘Sundarbans,’ considering the before and after dimensions of the cyclones ‘Sidr’ and ‘Aila’ which occurred in the coastal district of ‘Satkhira’ located adjacent to the Bay of Bengal. The study predominantly focuses on the forest dependents’ women and men in the village, Shora, as the scope of the study. By employing a qualitative research method combining with observation, in-depth interview and Focused Group Discussion, the present study critically investigates the women’s and men’s detailed perceptions about the forest, its resources, and how their perceptions and interactions in the use of forest resources have been affected due to Sidr and Aila. In addition, the study documents the area inhabitants’ notions around environmental security as it relates to the Sundarbans and their region. The study explores that the area inhabitants get acquainted with the forest from their childhood through story-telling narrated by the senior family members and the elderly ‘Murubee,’ and the lessons taught at the primary school. Although the forest goers follow myths for going to the Sundarbans, the study finds that, compared to the women of Shora, the men act in a bolder manner, and gets an access to the dense part of the forest throughout the years, hoping to get handsome cash income. The study reveals that in the pre-cyclone landscape, a few ultra-poor married women, widow and divorced women would enter to the nearest part of the forest to sustain their livelihood. It is evident that women, rather than men, glean the forested resources in a sustainable way, but due to patriarchal attitudes, as well as conservative Muslim outlook towards women, they earn little benefit from the forest resources, and their access to market is confined. Furthermore, the study observes that people consider Sundarbans a great source of oxygen; a provider of human security components; and at the same time resistant of natural disasters. The findings suggest that in the post cyclone context, a lot of women are challenging the so-called ‘local customs’ and are engaged in income generating activities outside of home and in the forest. It also confirms that disaster-victims are looking forward to having an alternative source of income, so that the forest might be protected from human intervention.

Keywords: *Sundarbans, Perceptions, Interactions, Sidr, Aila and Environmental Security.*

Chapter One

Thesis Overview and Background of the Research Setting

Introduction:

The Sundarbans forest in the coastal regions of Bangladesh has been undergoing conspicuous changes over the last couple of years. The consequences of the recurring cyclones and floods over the last few decades, the hazardous use of the forest resources by the area inhabitants in the name of their quest for livelihood, a prolonged drought in summer and intensive cold during winter, causes an imbalance between forest and human life. Previous studies in the mangrove region ‘Satkhita’ reveal the nature of Sundarbans’ ecology, changes in the habitat of wild animals, as well as the social wellbeing of the forest users to a greater extent. Although the lives of the coastal village dwellers nearby the Sundarbans are under extreme threat of cyclones, women with conservative Muslim outlooks, under the patriarchal attitudes of the society, as well as the vulnerability caused by cyclones *Sidr* and *Aila*, interact with the forest resources. Thus, the main purpose of the thesis is to document women’s and men’s activities *in* the Sundarbans forest, and women’s behaviors *towards* the forest resources.

Research Problems:

Over the decades, the effect of global climate change as a form of environmental calamities (e.g., cyclones, flood, drought, water scarcity etc.) has resulted in a severe threat to the lives of poor people and humanity in Bangladesh. Historically, it is evident that the inhabitants of the southwest coastal regions of the country are the worst victims of such disasters. Studies explore the degree of suffering, vulnerability, as well as environmental degradation of the disaster-affected regions. The poor rural inhabitants of the Satkhira district, dependent on the Sundarbans forest, experienced two severe cyclonic hits ‘Sidr’ and ‘Aila’ in 2007 and 2009 respectively. The severe velocity of Sidr ruined a substantial amount of trees and killed wild animals of the Sundarbans forest, while the consequences of ‘Aila’ lasted for three years; causing the forested area habitants to become homeless, marginalized, and causing the destruction of the crops in the field. As a result, the intense suffering from lack of

food, shelter and pure drinking water of the cyclone affected people, the Government of Bangladesh, international donor agencies, as well as several national level NGOs who distributed relief goods. This aid contributed to a small extent of the livelihood support for the cyclone victims of the rural villages of Satkhira (Roy, 2011). Due to the terrible local reality in the post cyclone landscape, men and women in the remote villages cut off from the district town felt compelled to base their livelihood solely of the Sundarbans forest.

Although gender is a significant organizing principle in social life and disaster affected poor communities (Enarson 1998), scholars and practitioners rarely examine disaster-affected people's perceptions about the forest, and more specifically, de-emphasize to reveal women's behaviors towards the forest and its resources. The voices of the disaster-affected communities in the mangrove regions, more specifically women's experiences of the disaster, and their relation to the mangrove forest are not brought into consideration by the decision making bodies of the national governments of the South Asian countries (Walter 2008 quoted in Mahatab 2010). With the given picture of the cyclones, the researcher takes both before and after dimensions of Sidr and Aila into account for documenting people's activities in the Sundarbans forest, and their perceptions on environmental security.

Purpose and thesis questions:

The thesis mainly documents women's and men's activities in the Sundarbans forest, and women's interaction with the forest resources. The study will thoroughly answer the following questions:

- What are women's and men's perceptions about the Sundarbans, its resources and to what extent have changes in the use of forest resources happened due to Sidr and Aila?
- How do women behave towards the forest resources at Shora?
- What are women's and men's notions about environmental security as it relates to Sundarbans and their region?

Study objectives:

- Conduct individual and group interviews with women and men who enter the Forest to use its resources.
- Accompany women and men into the forest to observe their behaviors as they interact with the Forest and its resources.
- Use thematic network analysis to explore the data for answers to the study questions, and to reveal additional themes that arise from the data.

Historical context of the study:

The Sundarbans, which means ‘the beautiful forest’ in Bengali language, is the biggest single area of the tidal mangrove forest in the world. Even though the mangrove forest is jointly owned by Bangladesh and India, 60% of the total area is situated in the southwest districts Satkhira, Khulna and Bagerhat in Bangladesh (HCoBS 2013). The forest stands in the natural outlet of the Ganges, the river *Brahmaputra* and the *Meghna*. The Sundarbans connects numerous branches of rivers, producing muddy lands and is intermingled by small islands of salt tolerant mangrove forests.

The Forest Department of Bangladesh reports that the Sundarbans consists of 6, 01,700 hectares, of which 4.07% is the total land mass of the country and covers 40% of the total forested land. The ministerial website of the Forest and Environment of Bangladesh presents that the Sundarbans houses as many as 334 species of trees and shrubs, 35 mammal, 270 birds, 400 fishes, as well as 35 reptile species. In addition, the forest record of 1998 confirms that Sundarbans approximately belongs to 12.26 million cubic meter timber from the species of Sundri (*Heritierafomes*), Gewa (*Excoecariaagallocha*), Keora (*Sonneratiaapetala*), Baen (*Avecenniaofficinalis*), Dhundul (*Xylocarpusgranatum*) and Passur (*Xylocarpusmekongensis*). Beyond these, the forest mainly attracts tourists around the world for the presence of the noted *Royal Bengal Tiger* or ‘Bagh,’ with its majestic movement. One can also view the saltwater crocodiles, several species of primates, leopards, and King Cobras around many small water bodies (HCoBS 2013). In 1997, the Bangladesh part of the Sundarbans was listed by UNESCO as a World Heritage Site.

Throughout years, the Sundarbans continuously serves as livelihood support and ecological services to a vast majority of people living nearby the forested regions. It supplies forestry products (firewood, charcoal, fruits, honey etc.) and fishery products (shrimp,

prawns, snails, crabs, mollusks, etc.) to the area inhabitants. The mangrove twigs are highly important to the calorific values, contributing to the making of charcoal and firewood, and more importantly it burns producing high heat without generating smoke (Kathiresan n.d.). In addition, the fascinating honeybees of the Sundarbans's mangroves promote apicultural activities and offer employment for 2000 people. It is exemplified by the fact that people of mangrove regions extract 111 tons of honey accounting for 90% of annual honey production in India (Krishnamurthy 1990). While in Bangladesh, approximately 185 tons of honey and 44.4 tons of wax are garnered from the western part of the mangrove forest (Siddiqi 1997).

In Bangladesh, the mangroves of the Sundarbans protect a vast area of coastal regions from UV-B radiation, the effects of global warming, the risk of cyclones and floods, as well as the coastal erosion. The mangrove bogs function as traps for the sediment and sink for absorbing the pollutants such as methane, carbon-dioxide, and sulphur-dioxide, as well as CFCs. The roots of the mangrove keep the substrate steady, and consequently contribute to a stable ecosystem in the Sundarbans. The Sundarbans' ecosystem affords a great source of food, serving as breeding grounds and nurseries for food fishes, flora and fauna and maintaining a balance between wildlife and forested animals (Kathiresan n.d.).

Although the rural poor, which are accommodated nearby the Sundarbans zone, are profoundly benefited by the livelihood¹ facilities and ecological support, they cannot help but bearing the brunt of environmental calamities at times, and coping with such severe situations. Bangladesh is currently ranked as one of the world's most disaster prone countries, with 97.1 percent of its total area and 97.7 per cent of the total population at risk of multiple hazards, including cyclones (WB 2005). There is a common consensus among climatologists that Bangladesh is situated in the most vulnerable zone, due to the impact of climate change.² Owing to the increase in water temperature and soil salinity throughout the periods of 1998-2008, the population around the Sundarbans forest zone experienced a serious lessening of their productivity (Basar 2009). The livelihood scarcity of this population worsened when

¹ A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living, and it is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Carney 1998).

² The 4th Assessment Report (2007) of The International Panel on Climate Change (IPCC) defines the following as the main climate change impacts in the region: increased frequency of droughts and floods affecting local production negatively; sea-level rise exposing coasts to increasing risks, including coastal erosion and increasing human-induced pressures on coastal areas; and glacier melt in the Himalayas, increasing flooding and rock avalanches.

Cyclone Sidr struck on 15 November, 2007. It resulted in the death of as many as 3,406 people, and caused destruction totaling nearly US\$ 1.7 billion (GOV 2008 quoted in Paul 2009). Comparing this to the estimated death of 140,000 and physical (e.g., coastal embankment, forest ecology, disconnection of the road networks) damage due to the Cyclone Gorky, which occurred in the same region in 1991, Paul's article reveals that the Sidr caused far fewer deaths than Gorky; but it staged a huge massacre on the forest ecology, imposing threats to the area dwellers and wild animals. It has been suggested that almost 45% of the area of the Sundarbans was destroyed due to the cyclonic hit of Sidr (Bhowmik and Carbal 2011).

While the Sundarbans's ecosystem and the coastal people were struggling to recover from the overwhelming aftermath of Sidr, in 2009, an incredibly strong cyclone, Aila, hit the same region, causing the deaths of 320 people, among the total victim of 2.3 million people (Kumar et al. 2010 quoted in Kamal 2013). The duration of the Aila was more prolonged than that of the Sidr, with a nonstop rainfall and tidal surges, with the waves lashing against the embankment and submerging many villages in 15 coastal districts of Bangladesh. In addition, the tidal surge washed away a great deal of houses, crops, livestock, and livelihood sources in the affected regions. During the Aila, unexpectedly the village Dumuria adjacent to Shora at Shamnagar, under the district Satkhira, was washed away since three embankments were destroyed, and villagers had to stay on the rooftop of mosques and primary schools (Kamal 2013). Particularly, women and children of the region were the worst victims, and it was more severe than 75% of the displaced individuals (WHO 2009). Therefore, in the post-Aila scenario, it is evident that people's source of livelihood and human security are undergoing a significant change. At present, the area inhabitants of the Shora and Dumuria regions in Bangladesh are in a transitional phase for the recovery of their normal lives.

Brief description of the study site:

The study was conducted at Shora, a part of Gabura Union³, administered by the Shamnagar Upazilla "Police Station," approximately 45 Kilometers away from the district town of Satkhira⁴. It takes more than 75 minutes by bus to reach Shamnagra from the district town. Due to the muddy road network and unavailability of bus service from the Shamnagr

³ Union is the lowest administrative unit of Bangladesh.

⁴ Source: <http://www.dcsatkhira.gov.bd/>

city center, one needs to use either motor bike or three wheel 'Easy Bikes' to reach at Nildumur market, a gathering place for the local people. Thereafter, crossing the river 'Kholpatura' in a short trip of 40 minutes by motor boat one can easily take an entry to the Shora. It is next to Dumuria at the Gabura Union, but is the closest to the Sundarbans forest and the Bay of Bengal. The entire population of the village is 5593, of which 2846 are women, and approximately 99% inhabitants are Muslims (BBS 2011). The local newspaper 'Dristypat,' reports that the brave inhabitants of Shora struggle to earn their livelihood from the forest.

Rationale:

Although there have been some studies undertaken focusing on women's access to, and control over, community forest resources; as well as disaster victim's coping strategies in both northern and southern districts in Bangladesh. There have been very few studies that have been conducted in Satkhira, and none have been done in the village of Shora, which this particular study has focused on. On a practitioner level in Bangladesh, a great deal of research projects dealing with women's rights to the forest and environmental management has been initiated and funded by the donor agencies. Those professional research projects hardly present a comprehensive juncture between the disasters victims' knowledge on the forest and human- Sundarbans relations. Given this, it is expected that the findings of the thesis tends to present a clear picture of the beliefs connected with the Sundarbans forest, as well as contribution of the forest for environmental security. It is also hoped that the dissemination of the findings will produce a new perspective in the field of customs of mangrove forested community members, as well as human security anticipated by the Sundarbans forest, and offer data which likely researchers of Gender Studies or Development Studies in the future can design further and merge through their work.

On an academic level, I am very enthusiastic to explore forested communities' standpoints and the grassroots activism of men and women in the Sundarbans forested area of Bangladesh. The patriarchal social structure of rural settings and the political marginalization of the mangrove regions force women to conceal their in-depth experience of cyclones and floods over the years. Due to the uneven power relation, gender inequality in terms of acceding to, and control over, forest resources, and the practice of conservative Muslim outlook in the rural villages in Satkhira encouraged by the institutional arrangements, marginal women's and men's knowledge are systemically ignored. Therefore, the central

focus of the study is to document the perceptions and behaviors of the cyclone affected men and women reliant upon the Sundarbans forest.

Conceptual clarifications of key terms:

Mangrove Forest ‘Sundarbans’:

Mangroves are the ecologically important coastal wetland systems, and in the tropics, they are especially rich in flora and fauna (Monoharan and Karuppasamy 2011). Anisur (2001, p. 101 quoted in Basar 2009, p.6) states that-

“The importance of Sundarbans in Bangladesh’s economy and regional ecosystem is enormous. More than four million people who live around this region survive on their extracting resources of this forest. Fifty thousand people from local area rely on forest for their livelihoods.”

Environmental Security:

In 1987, the World Commission on Environment and Development (WCED) report, ‘*Our Common Future*,’ used the term ‘sustainable development,’ and introduced ‘environmental security,’ which was tabled in the United Nations Conference on Environment and Development (UNCED) in 1992. Nina Graeger quoted in Freeman (2004, p.9) outlines four reasons for making a theoretical and operational linkage between security and environment –

“First, environmental degradation is in itself a severe threat to human security... Second, environmental degradation or change can be both cause and consequence of violent conflict...Third, predictability and control are essential elements of military security considerations, and these are also important elements in the safeguarding of the environment...Fourth, a cognitive linkage between the environment and security has been established. It has become legitimate for mainstream politicians to speak out in favor of an environmentally responsible security policy. ”

Thesis organization:

The framing device of the thesis follows conceptual discussions, chapters two and three, methodological implications (chapter four), empirical findings, chapter five, chapter six and seven, as well as concluding remarks (chapter eight). Chapter two reviews the literature on the three thematic areas-a) women's indigenous knowledge about the forest; b) gender relations in forestry research; and c) gender in the environmental security discourse. The discussion clarifies how social forces encouraged by patriarchal attitudes happen to downplay women's conventional knowledge about the forest, as well as their experience in using its resources. This identical invisibility of women in the rural households compels them to confine their voice in the familial decision making process. In addition, I discuss the gender perspective of environmental security describing how resource scarcity as well as disaster causes environmental degradation.

Chapter three unfolds the major arguments on the Standpoint Theory, as well as Feminist Political Ecology Theory. I discuss the historical growth of the Standpoint theory, and present the arguments coined by Sandra Harding, as well as Chandra T. Mohanty. Harding's argument on the standpoint theory schematically outlines the epistemological base of feminist's knowledge, and explores the politics against marginalized women's knowledge production from the grassroots level. While Mohanty's framing of third world women's knowledge production helps to understand the struggling of the women of the study setting. Furthermore, the arguments of Feminist Political Ecology theory offers an overall understanding of forest-going women's social position, as well as their struggles in the households, and how they get deprived off the cash income gained from the forest resources.

Chapter Four clarifies how the field work was conducted; and the tools used in the data collection process, the structure of the gathered data, the role of the researcher in maintaining the validity, reliability as well as reflexivity, the problems encountered during data collection, data analysis process, as well ethical consideration. The study used a qualitative research method, followed by the phenomenological approach with the combination of observation, unstructured in-depth interviews guided by the open ended questions, as well as Focused Group Discussion (FGD) followed by key words. As the fieldwork was undertaken during the rainy season, I recruited two assistants offering to collect for me as rich data as possible. Further, the discussion demonstrates how the gathered data has been analyzed by operating

‘Techniques of Identifying Themes’ as well as ‘Thematic Network analysis: an analytic tool for qualitative research’.

Chapter five deliberates the informants’ detailed understanding about the Sundarbans forest. The discussion makes it clear how the forest area inhabitants acquire the initial understanding about the forest, the forest connected myths exercised in the study settings over the years, as well as the primary service gained from the forest. It also incorporates how the forest resources are used in both the legal and illegal ways by some of the area inhabitants. The chapter elaborates the informants’ changing relationship with the customary use of the forest resources. In addition, the discussion interprets the findings through the Standpoint Theory, and integrates literature where it is relevant.

Chapter six reports how female informants in the study setting behave with the forest and its resources, both at the Sundarbans and at home. The findings confirm that, though women in the study regions are the primary resource user of the gathered forest resources, their decision making in the family lies in between the market place and collectors. It also shows that despite women’s vulnerable position at Shora, that caused by cyclones and patriarchal attitudes of the society, they are motivated to conserve the forest for their sons and daughters and look forward to finding alternative sources of livelihood.

Chapter Seven considers the before and after dimension of Sidr and Aila and attempt to discuss informant’s view on ingredients of human security as it is related to their survival and the forest. It illustrates that each informant holds knowledge on the benefits, as well as the threats of human security, and confess that before the cyclone the study setting had a wealthy ecology with all requirements of living for the area habitants, and forested ecology was adequately equipped to maintain a balance between wildlife and climatic threat. Furthermore, informants’ narratives reveal that after the cyclones, the forest centered traditional occupation has been changed, and depletion of the forest has caused threat to a greater extent to life.

Chapter eight outlines the concluding remarks of the thesis, where I present the summary of each and every chapter, and critically discuss the interpretation of the theories. The last section of the chapter offers the further research opportunity, which might be conducted in the mangrove regions of Bangladesh.

Chapter Two

Review of the literature on women's indigenous knowledge about forest, gender relations in forestry research, and gender in the environmental security discourse.

Introduction:

This chapter thoroughly reviews literature in three thematic areas: a) women's indigenous knowledge of the forest; b) gender relationship in forestry research; and c) gender in the environmental security discourse. First, I present the authors' core arguments on how women understand the forest and its multiple resources, and how women of the South Asian countries have visible connections with the forest. The second section of the discussion takes account of gender relation in forestry research, and entails the relational aspects between women and men in light of forest resources. The third section— 'gender perspective of environmental security'— spotlights how resource scarcity, as well as environmental degradation, affects the human-environment relation. In addition, the discussion on the role of forest in the environmental security reveals how forests contribute to the protection of an ecosystem of a given context. The concluding section—'point of departure'— identifies the knowledge gap of the reviewed literature to be filled in the empirical chapters of the thesis.

Women's indigenous knowledge about the forest:

Gururani, (2002) in her article 'Construction of Third World Women's Knowledge in the Development Discourse' argues that the third world women possess an environmental knowledge, with a particular focus on biodiversity conservation. She emphasizes the essence of women's environmental knowledge about soils, seed collection, forest species, biodiversity, pesticides and so on. Considering the Bankhali's forest in northern India, the author claims that women's knowledge about the forest resources is always overlooked and marginalized, because men in the rural society always interrupt the process of the social construction and representation of women's knowledge.

“Even though women know a great deal about the forest, men systematically render women's knowledge as non-knowledge and regard them as backward and foolish. Given the imprint of patriarchal hegemony, women, too, undermine their own

knowledge and uphold men's scriptural knowledge as 'real knowledge,' illustrating the culturally contingent relations of power, between women and men, and between different women that shape the politics of knowledge'' (Gururani 2002, p.321).

Likewise, Kabir and Hossain (2007) explicitly present the symbiotic relationship between nature and indigenous people. The authors' analysis articulates the integration of the indigenous knowledge of the traditional forest resource-users and the exclusionary perspectives of women's knowledge, intervened by their male counterparts. In addition, the article enunciates that indigenous men and women are not concerned with the destruction of forest, rather the commercial use of the forest by men and the Forest Department, including relevant official causes and their harm to the Sundrabans forest.

'People's attitudes towards Social Forestry: A Case Study in Rajshai,' a study conducted in Bangladesh, defines social forestry as a source of capital for the community dwellers. Capital earned from the forest improves the aesthetic view of the area (Alam, Rakkibu and Rahman 2012). For the increase in literacy and the resultant close contact with mass communication, the study also explores how farmers are becoming aware of the role of social forestry for their environment. The authors note that each part of the tree is considered valuable in the indigenous community, because it serves them food, fuel, furniture and, most importantly, medication.

It has been calculated that the households of some four million people in the coastal region of Bangladesh are directly contingent on the Sundarbans forest (Anon 2004 quoted in Iftekher and Islam 2004). In this view, Iftekher and Islam (2004, p. 142) assert that the mangroves play a pivotal role in offsetting the aftermath of cyclones, and supply indispensable nutrients and habitats for fish and wild species. Their study points out how mangroves provide raw materials for paper, pencils, wood and furniture industries for the community members living in the forest surrounded zones in Bangladesh.

Bosold (2012) analyzes how power dynamics, and relations between the community people and forest officials, affect the mangrove forest conservation decision. The author's article also demonstrates how gender plays an important role, as men and women with their different positions at community level make use of the mangrove forest differently. Women and men constitute their perceptions of the forest in various ways. For example, Siar (2003

cited in Bosold 2012) acknowledges that men place a higher value on the commercial species of fish thriving in offshore coral banks.

Siar (2003 cited in Bosold 2012) observes that the activities of men in the Honda Bay in the mangrove forest are usually deemed principal, while those of women are either ignored or considered peripheral. It is evident that the women are marginalized, and that their works are overlooked needs to be vigorously addressed in the study. Bosold (2012) further argues that a gender perspective assists the inclusion of the marginalized women's experience about the mangrove forest, giving an overview of where the activities of men and women converge and diverge, both in the forest and in the household. With the depletion of the natural resources against the fast increase of population, women are to face dire scarcities of firewood (IUCN 2007). It causes the rural women of northern districts 'Ganche' and 'Ghizer' of Pakistan to walk a long distance to collect firewood.

Islam (2011) agrees that the forest is the most diverse and widespread ecosystem on earth, and forest products have served millions of people with innumerable essentials for their livelihood for centuries. His study on the Sundarbans forest explores four types of traditional occupations of the forest dependents: fishing, crab catching, honey collecting and *Nypa Palm* collecting (a non-timber forest product).

Whatever diversity once dominated the scene of occupations in the region has been utterly transmuted with the cyclonic hits of *Alia* and *Sidr* (Nasrin 2012). The lives of women in the villages in Bangladesh are shaped by the dual aspects: women are completely dependent on natural resources (e.g., food, fuel, fodder, water, medicine and income-generating activities) for their existence, and they are to carry out the familial responsibilities through managing and using of natural resources (Nasrin 2012). It defines women as the natural resource managers who make decisions on how to use environmental resources in the household. On the contrary, the poor women become the worst victims in the event of natural and manmade disasters such as floods, cyclones, droughts, deforestation, soil and riverbank erosion, drying of wetlands, contamination and agro-chemicals and industrial waste, commercial shrimp cultivation, and inappropriate land use. She further argues that the interconnection between the women and the environment is less evident in the west, where they are not engaged directly in the sources of their food supply, nor the energy and the water they consume.

The participatory process in the resource management benefits everybody of a given community, but the social reality and complex relationship among different actors impedes the management of the community-owned forest (Buchy and Subba 2003). The authors address how an institutional model like the community forest restricts to integrate gender as a variable.

The women in the forest communities in Nepal are recognized as the key forest managers for their knowledge, skills, contribution and dependency on the forest resources (Giri 2012). The ambiguity between the forest tenure and the involvement of different categories of women and men in the South Asian societies is poorly understood. “The institutional mechanism and wider political context shaping the power relation in the gender perspective of the forest concerned occupations is still unclear” (Giri 2012, p.2). Similarly, Halim (1999) agrees that the men and women in the forest areas of Bangladesh are knowledgeable about social forestry and meet the household necessities; nonetheless, the professional aspects of women in this sector are quite low compared to those of men.

White and Martin (2002 cited in Sun et al. 2012) articulate that the rights of access and the use of forest resources by the forest-dependent communities’ offers a strongly based livelihood, and a better forest management as well as conservation. Sun et al. (2012) review the national laws with special attention to the individual, collective and public right of control over the forest and forest resources of South Asian countries. Their review emphasizes the way the national law interprets the position of men and women in the society, being colored by the extant social customs and giving priority to the men as the breadwinner and undermining the women as the social quasi-outcast. “Forest dependent women seldom have secure title to forest lots or secure access to forest resources” (Sun et al. 2012, p. 2). Therefore, with the socio-cultural phenomena constricting their access to the forest resources, women living in extreme poverty and dependent on forest resources are systemically ignored.

Despite the environmental policy, intervention has upgraded gender equity-concerns over the last few years, women still remain impoverished by insecure access and constricted property rights to the forests, trees and land resources⁵. To illustrate, women in comparison to men excessively tolerate the costs of tree and forest management, comprehend only a fraction

⁵World Bank, FAO and IFAD 2009, Gender in agriculture sourcebook, Washington, DC.

of the benefits and tend to be enlisted for decision making only when forest and tree resources are ruined (Agrwal and Chhatre 2006). Besides, the rural women lacking in formal education, occupation and personal networks discover themselves in the lowest position to influence the resource allocation or research (Crewe and Harrison 1998; Ferrier 2002). A study demonstrates the changes in trees, and the loss of community access to forests, can have a disproportionately adverse impact on women, with an indirect impact on households and consequently on the livelihoods of five to ten times as many people (CIFOR 2012). It examines the interplay of power, institutions and practices that instigates disparities between men and women in tree and forest management.

Summarizing, the discussion explores how third world women's knowledge of the forest is overlooked, and the interplay between power relations, and institution mechanism, constrains women's indigenous perception on their use of forest resources.

Gender relations in forestry research:

The inclusion of gender in forestry research considers the differences between men's and women's interactions, their particular roles, their knowledge in various forestry fields, and the factors that reinforce any evident difference (Camou-Guerrero et al. 2007; FAO 2007; PRB 2001; USAID 2001 cited in Mai, Mwangi and Wan 2011). It clearly describes the practical and strategic gender interests, the extent of dependence on forest resources (Agarwal 2010b and FAO 2007), men's and women's relative priorities, access, control and power to make decisions over forest resources (Reeves and Baden 2000).

The gender relation deals with a complex set of material and ideological aspects, not only limited to the division of labor and resources between men and women, but also ideas and representations of women's and men's different abilities, attitudes, desires, personality traits, behavioral pattern (Agarwal 1997). It is perceived that gender relations of a specific society are formed by these practices and ideologies of individuals, as guided by Agarwal. The interactional aspects among individuals and social institutions shape the social stratification in a given context. Due to the unequal power relation between women and men in the society, the natural resource management process is not social, nor gender neutral (Vernooy and Zhang 2006 quoted in Dhali 2009). The author further elaborates that the integration of gender analysis helps develop a better understanding and awareness of the

social and power relations that govern access, use, and control over natural resources, and to create room for social actors (women and men) to maneuver and to enhance the bargaining and negotiating power of groups that are marginalized and discriminated. It leads to empowerment and transformation where they have more access to, control over and benefit from natural resources. The author concludes that indigenous women in the hilly regions of Bangladesh possess inadequate schooling about the techniques of using natural resources management, leading them to face the gender-stereotyped treatment from their male counterpart.

This section has presented a schematic outline describing the essence of gender relations from the perspective of forest research. It describes the facts of how power relations are molded and exercised in the case of accessing and using forest resources.

Gender in the environmental security discourse:

Classmen, (1995, p.40) cited in Barnnet, (2001) argues that the environment and security relationships are an important association between resource scarcity and conflict. The dearth of environmental resources negatively impacts the human- environment relation. Although natural or manmade disasters befall the environment to its degradation, it is required to identify the underling phenomenon causing the violent conflict between human setting and environment. The insufficiencies of resources threaten or destabilize the way of life of a given human population, or internal structures of governance and activity through the fostering of sub-national conflict and the significant reduction of options for action (Brunee and Toope 1997). Furthermore, the authors support the *argument of redefining security*, coined by Richard Ullman, outlining sequences of events threatening security.

“The sequence of events that a) threatens drastically and over a relatively brief span of time to degrade the quality of life for the inhabitants of a state, or b) threatens significantly to narrow the policy choices available to the government of a state or to private, nongovernmental entities (persons, groups, corporations) within the state” (Ullman 1983 cited in Brunee and Toope 1997, p. 26).

The scarcity of natural resources enforces a given society to adopt activities often subversive towards the environment. Homer-Dixon (1999) divided the natural resources into two groups: renewables (forest, freshwater, land, fertile soil as well as Earth's ozone layer) as well nonrenewable (oil and minerals) for describing how human beings consume it for their own needs. The author illustrates that renewables are connected to human existence, but its scarcity severely undermines the well-being of people. For example, the degradation of the forest resources of a country might cause desertion. Dixon concludes his discussion by detecting three ways that weaken human well-being: through a drop in the supply of a key resource, through an increase in demand, and through a change in the relative access of different groups to the resource.

Detraz (2009) addresses the significance of incorporating gender into the approaches on the environment and security to exhibit the gender understanding of both security and the environment. The author analytically examines the environmental security through a gender lens, clarifying the gendered nature of global environmental politics, and redefines the concept in ways that are more useful for understanding the juncture between environmental resources, gender relation and environmental security. The author identifies three distinctive viewpoints by merging security and environment: environmental conflict, environmental security and ecological security as presented in the table:

Table: Three security and Environment Perspectives

	Main Object of focus	Primary Concern	Relationship to traditional security scholarship
Environmental Conflict	Human beings	Potential for violent conflict over resources	Most closely related to security; adding environmental elements to security.
Environmental Security	Human beings	Negative impacts of environmental degradation for humans	Further removed from security than environmental conflict; closer to human security than military security.
Ecological Security	Ecosystems	Negative impact of human behavior for	Furthest remove from security; advocates a revision of security

the environment
the

sees security as damaging of
environment.

Source: Detraz 2009, p.347

Detraz's table demonstrates how interaction between human beings and ecosystems affects the environmental security/ecological security. The haphazard use of the renewables by human beings for their survival, as mentioned by Dixon, (1999) expedites the environmental insecurity. The environmental degradation, either instigated by cyclones or manmade factors, threatens the ecosystem of a specific region.

Worldwide, forests serve an important role for the protection of the natural environment. The community owned forest in the rural areas of Bangladesh saves people by giving them wood to be used as fuel, and employment opportunities, whereas coastal forests and mangroves reduce the high speeds of wind and storm. Mangrove forests provide coastal erosion protection and preserve wetland (Fritz and Blount 2009). Forests play a significant role in controlling air pollution by absorbing the pollutants such as sulfur dioxide, hydrogen fluoride, and heavy metals, as well as ozone (Innes 2005). In addition, the author points out that forest protect global carbon cycles; it represents an important sink for atmospheric carbon dioxide.

The section 'gender in environmental security discourse' discusses the essence of environment and security in terms of resource scarcity and conflict induced by the human population. The further discussion takes gender lines into account, and examines the traditional relationship between environment and security scholarship. Furthermore, the arguments summarize the implications of the forest for the lives of community, and show how the forest maintains the ecological balance in the coastal regions of Bangladesh.

Point of departure:

The reviewed literature addresses how gender lines are considered in the discourse of forest and environmental security, but also the discussion seldom maps out the forestry society's interactional aspects to the mangrove forest, and how the human-environment relationship is impacted with regard to cyclone in the perspective of mangrove regions of Bangladesh. Moreover, the literature review hardly makes evident the role of forest in the

depletion of cyclones, as well as women's and men's indigenous knowledge construction about the forest and ecological protection. Therefore, the knowledge gap emerged from the literature review offers a fresh perspective to investigate the indigenous perceptions of women and men about the Sundarbans forest, how they behave towards the forest, and the interconnection between the forest and ecological security. The study attempts to fill this knowledge gap with the application of *Standpoint Theory* and *Feminist Political Ecology Theory* (To be discussed in the next chapter), and the empirical data gathered from the fieldwork (To be discussed thoroughly in the 4th chapter).

Chapter Three

Theoretical Framework

Introduction:

This chapter describes the fundamental insights of standpoint theory, as well as the feminist political ecology theory. The first part of the discussion contains feminist scholars' view that positions the epistemic value of the lives of the marginalized groups of women. It presents the argumentation of western feminist scholars and third world feminist writers. Among scholars of standpoint theory, I emphasize the arguments of Sandra Harding and Chandra T. Mohanty to portray a perspective on knowledge production. The second part of the theoretical discussion deals with feminist political ecology theory. It describes Newmann's framework on political ecology, and thereafter elaborates theoretical debates and explores how feminist political ecology explains women's interactional aspects to the environmental resources, as well as how they develop insights into environmental security.

Standpoint Theory:

Standpoint theory emerged from the women's liberation movement during 1970s and 1980s from a group of Western feminist scholars like Nancy Hartsock (2002), Dorothy E. Smith(1987), Alison Jaggar (1989 quoted in Fuller 1999), Hilary Rose (1994 quoted in Fuller 1999) , and Sandra Harding (1993, 2004a, 2004b, 2008). Among scholars, Harding's contribution to academia is notable as her theoretical argument is widely used in social science and natural science research projects. Initially, the theory borrowed its fundamental insights from Marx's historical materialism. Standpoint theory describes the underrepresented position of women of a specific social and cultural context. The term 'standpoint' is identical to 'perspective,' which informs how knowledge is constructed and presented in a socially scientific manner in the academic text.

Standpoint theory seeks the experiences of both women and men, and more specifically how women's experiences are shaped by the social and political phenomena. The theory is applied in order to see beneath the ideological surface of social relations accepted as natural (Hartstock cited in Harding 2006). Hekman (1997) argues that the original formulation of feminist standpoint theory is based on two major assumptions: all knowledge

is located and situated. Hekman also discusses that location, the standpoint of women is privileged, because it provides a vantage point in enunciating the truth of social reality.

“Standpoint theory claims that some kinds of social locations and political struggles advance the growth of knowledge, contrary to the dominant view that politics and local situatedness can only block scientific inquiry” (Harding 2004, p.351).

Knowledge is produced from the subject positions of women's everyday lives. The experiences of the marginalized group of women are reflected and represented through the systematic power relations. Therefore, the standpoint theory discovers the dialectics of knowledge production based on the dominated versus the dominating groups, offering the *deconstructive* aspects in exposing the androcentric quirks within the theory and practice of the sciences and social sciences, and *reconstructive* ones in offering alternative explanations of the world informed by women's experiences and activities (Ho and Schraner 2004). It emphasizes that feminists and scholars ought to commence empirical and theoretical research projects “from women's lives.” In this regard, underlining the oppressed perspectives of women and their acquired experiences in daily lives from the society is reflected through this theory. Therefore, Harding (2008, p.115) addressed it as “sciences from below.” As an organic epistemology, philosophy of science, social theory as well as methodology, the standpoint theory has received an extensive coverage in many social as well as natural science disciplines (Harding 2008).

The essence of the standpoint theory possesses four major dimensions in the social science research projects (Harding 2004). First, the motto is to articulate how the perspectives of women, or other socially relegated groups, are constituted, and to examine the practices of power of the dominant institutions (e.g., Masculinity, Family) and how their conceptual frameworks help maintain the oppressive social relations. Second, taking material and political disadvantaged form of oppression into account, the theory provides a distinctive insight into how a hierarchal social structure functions. In these views, Smith (1987) has outlined how different ways women to perform tasks and responsibilities for their daily lives, which makes them marginalized.

Third, it aims to record what the women or the members of oppressed groups actually say or believe in recognizing their social surroundings. Usually, the oppressed groups of a

given society comprehend that their distorted representations of social relations are caused by the dominant groups. The standpoint theory as an organic epistemology suggests changing our minds about what our experiences were or how we want to think about them to investigate the truth. In this turn, the actual source of domination acting upon the marginalized group can be found through the crosschecking of their beliefs.

Fourth, the standpoint theory concentrates more on the foundation of group's consciousness rather than the shift in the individuals' consciousness. Regarding this, Sandra Harding (2004, p.32) has expressed her position in the following way:

“An oppressed group has to come to understand that each member is oppressed because she or he is a member of that group – Black, Jewish, women, poor, or lesbian- not because he or she individually deserves to be oppressed. The creation of group consciousness occurs (always and only?) through the liberatory political struggles it takes to get access to and arrive at the best conception of research for women or other oppressed groups, among the other goals of such struggles.”

The context of the discovery of knowledge, and how it changes over time due to the influences of social actors, (e.g., community, political party and NGOs) needs to be discussed. Harding (1993) argued this issue through the concept of ‘Strong Objectivity’ to explain women's subjective experiences attained from the objective phenomena. Biber (2012) expanded Harding's work describing the extent to which values and attitudes of the researcher also enter the ‘context of discovery.’ Feminist standpoint theorists contend that knowledge from the subordinated stratum is more complete than that of the dominant stratum. From this point of view, Mahatab (2010) argues that the rural women of Bangladesh comprehend their social world and the ways of survival in a critical situation better than men.

What places women to be epistemologically privileged agents in the contest of knowledge production and their situatedness? Bringing ‘Third World Women’ into account, Mohanty (2003, p. 231) cited in Mjaaland (2013, p.60) argues that feminist standpoint theory and epistemic privilege is understood with the analysis of experience, identity and the effect of social locations that can answer the issues of the marginalization and use and abuse of power in the present transnational context. It is asserted that the experiences of women gained through their social world are shaped by the everyday political struggles. Standpoints of

women in a given society are identified by their interactions with other women and men, as well as the resources they have an access to in order to lead their lives. With regard to the ‘third world women’ as ignorant, poor, uneducated, traditionally-bound, domestic family oriented and victimized; Mohanty (1991, pp. 34-56) claims that the description of third world feminists creates a discursive space where (self) knowledge is produced and the every practice of recalling and representing hints to the founding of politicized awareness and self-identity. In addition, the author from her perspective of knowledge production defines it as an essential ‘discursive site for struggle.’

The discursive arguments on the standpoint theory in the study will analyze what standpoint forest dependents occupy in the study region, and explore the perceptions of how forest resources are used. This investigation has been organized by doing observation in the study site over three months. I discuss the reflection of this scrutiny in the fifth chapter.

***F*eminist Political Ecology:**

Feminist political ecology is a bare-bones account of description and analysis of human environment relations. It articulates the nexus between feminism and political ecology. Neumann (2005) in his book *Making Political Ecology* notes that several scholars refer to political ecology as a research agenda (Bryant 1992 quoted in Neumann 2005), an approach (Warren et al. 2000; Zimmerer and Bassett, 2003a quoted in Neumann 2005), and a perspective (Rocheleau et al. 1996a; Kalipeni and Feder 1999 quoted in Neumann 2005). Beyond these, political ecology outlines how power relations and politics characterize the dynamics of economic development, environmental transformation, and social change through contextual geographic scale of analysis from the local to the global. As an approach, political ecology stands at the interdisciplinary crossroads of critical development studies, anthropology, feminism and environmental studies.

‘Women and Life on Earth: A Conference on Eco-Feminism in the Eighties’ held in March 1980 revealed the connections between feminism, militarization, healing and ecology. The conference described *Eco-feminism* as the connectedness and wholeness of the theory and practice. Mies and Shiva (1993, p.14) suggest that “‘women have a deep and particular

understanding of future generations and life on earth through their intimate connection between nature and experience.’’

“Ecofeminism is a movement that sees a connection between the exploitation and degradation of the natural world and the subordination and oppression of women. It emerged in the mid-1970s alongside second-wave feminism and the green movement. Ecofeminism brings together elements of the feminist and green movements, while at the same time offering a challenge to both. It takes from the green movement a concern about the impact of human activities on the non-human world and from feminism the view of humanity as gendered in ways that subordinate, exploit and oppress women” (Mellor 1997, p.1).

Although *Eco-feminism* pointed out the connection between women and nature, it constrained to find out how men as counterpart of women sustain the balance between nature and human setting. In response to the certain strands of eco-feminism, feminist political ecology has filled a need to theorize the role of gender without emphasizing the link between women and environments (Leach 2007). Men in the mangrove regions of Bangladesh used to go the forest more than women. Before 2005 in the study context, few women would go to the forest, as their husbands earned the daily monetary support by selling the forest resources at the local market. When the *Aila* occurred in 2009, it washed away the area habitants’ houses, leaving the cultivable land polluted with salt water.

Rocheleau, Slayter and Wangari (1996) stated that the feminist political ecology examines identity, difference, and significance of peoples’ relation to sites of environmental change, degradation and struggles. Furthermore, Rocheleau and her colleagues have laid out three analytical themes: (1) gendered knowledge, (2) gendered environmental rights and responsibilities, and (3) gendered environmental politics and grassroots activism. The defined first and the third themes are important the study; it will help explain how women and men construct their insights into the forest and its essential resources, more specifically it informs how women are to encounter the local ideological and social barriers in accessing and using of the forest resources for their survival. Mollett and Faria (2012) argue that feminist political ecology scholarship has re-emerged with a new energy engaging with the post-structural theory, and the acknowledgement of the role of spatial and embodied practices in constituting gender subjectivity.

The feminist political ecology as a theory proposes gender relations as an important marker of resource struggles scaled from the state to the body. Scholarly works (e.g., Mackenzie, 1998; Gezon 2006; Jarsoz 1999; Zeron 2005; Sultana 2011; Truelove 2011) pay close attention to struggles over household resources, gender-wise division of labor and livelihood security as activities concerning those phenomena are unfolded in everyday practices, and engender body politics. The struggling attitudes for environmental resources between women and men in the household, or even in the public space, are shaped by the conventional community politics. Mollet and Faria (2012) further suggest that the feminist political ecology focuses on gender and household relations in providing a nuanced conceptualization of gender relations in the context of development interventions.

The insights of the existing body of literature (e.g., Gururani 2002; Bondi 2005; Davidson et al. 2005, Pile 2010; Sharp 2009; Smith et al. 2009) into the feminist political ecology direct the ways that emotions come to matter in nature-society relations, and influence why and how people use, gain an access to, control and conflict over the ways they do.

Radel (2012), in her work ‘Gendered livelihoods and the politics of socio-environmental identity: women’s participation in conservation projects in Calakmul, Mexico’ points out the interaction between social construction of people’s relation to their environments and the social construction of gender. In stressing the perspective of socio-environmental identities⁶, the writer explained that social constructions of people’s relations in a specific socio-political context of environmental resources are determined through their labor, their livelihoods and their environmental ethics. Radel’s thoughts of gendered ideologies of natural resource access control and decision making offer an essential link between feminist political ecology and political ecology that examines how resource rights are negotiated between men and women within both households and villages.

“Therefore, in investigating the link between gender relations and environmental relations, there has been an increasing emphasis in feminist political ecology on mutual construction, with a particular stress on the importance of the ideological,

⁶Radel (2012) has employed the concept of identity to refer to the dual construction of the individual both in terms of the individual’s sense of self and in terms of the labeling of the individual by others or by society. Identities should be thought of as shifting, contingent and relational (Haraway 1991; Harding 1998 cited in Radel 2012), and are both constructed and performed through ordinary, daily practices (Butler 1990; McDowell 1995 cited in Radel 2012).

including identity, in concert with the material, in the creation of gendered environmental relations” (Gururani 2002; Nightingale 2006; Rocheleau et al. 2001 cited in Radel 2012, p. 66).

Radel’s position fits in the context of the study, as women informants are treated inhumanly in the study setting for their forest going practices. Even the local religious leaders advise men and young people not to interact with the “*Divorced women*.” This aspect of negative labeling of women questions their socio-environmental identities as claimed by the author.

In examining the sufferings of poor people for clean water, Sultana (2011) has sketched out her framework of feminist political ecology, mentioning the messiness of everyday politics and struggles over a critical resource such as water. In grounding her framework, she confesses that ideas of access, use, and control of resources are intertwined and interconnected within the embodied emotions critical to explaining the ways that nature–society relationships operate in everyday life in any given context. Thus, the fragile and tough process involved to accessing a necessary resource (forest) poses material and logistic challenges for women in the study region. The proximity, distance between home and source of resource, time needed, gendered space and physical burdens determine men and women, particularly to women in overcoming such challenges.

The elaboration of Radel’s argument has been reflected in Sultana’s (2011) work on drinking water contamination in the context of Bangladesh, which articulates the importance of heeding the various emotions and meanings attached to processes of resource access, use and conflict in order to better understand the emotionality of the resources existing in everyday struggles. These analyses enable the feminist political ecology to clarify and illuminate the ways that resources struggles and politics are not only economic, social, or rational choice issues, but also emotive realities, which have direct bearing on how resources are accessed, used, and fought over.

The given theoretical background will examine women’s behavior in relation to the forest resources, as well as how they constitute their understanding about environmental security in connection to the forest resources.

Summing Up:

I have discussed the standpoint theory by focusing on the argument of Hekman, (1997) as well as on several works of Harding. On one hand, the presentation of scholars' insights into the standpoint theory demonstrates the theoretical orientation to be applied for identifying women's and men's standpoints linked to the forest connected activities. On the other hand, the feminist political ecology theory will be employed to analyze how the women have access to the forest and gain control over it, their interaction with the forest as well as with the collected resources in the home. The framework of Rocheleau et al. (1996) will be used to cover the gendered concerns to environmental resources with attention to forest resources. While the recent argument produced by Radel (2012) will be used to understand how the social construction of people's relation to their environments and the social construction of gender is formed in the study context. Interestingly, Sultana's sketching of feminist political ecology framework in the context of Bangladesh intends to reveal the daily politics and struggle acts on the forest-going women in the forest and at home.

Chapter Four

Methodology

Introduction:

This chapter will present, clarify, and describe how the study took place at Shora, the methods and strategies applied, challenges encountered during the fieldwork, as well as ethical considerations and dilemmas. It comprehensively discusses research methodology, tools of data collection, structure of the gathered data, role of the researcher, and tools of data analysis. For exploring themes from the gathered data, *Techniques of Identifying Themes* designed by Ryan and Barnard (2003) has been used. Afterwards, with the explored themes, I operate the guidelines of Stirling (2001) 'Thematic Networks: an analytical tool for qualitative research' that maps out the thematic diagram to be used for structuring the three empirical chapters (Chapter 5, Chapter 6 and Chapter 7).

Research Method:

The study method used a qualitative research design, with a phenomenological approach. It is worth noting that in qualitative research, the researcher is the primary instrument of data collection. Consequently, *observation*, *in-depth interview*, and a *focused group discussion*, as key instruments of collecting data were applied during the fieldwork. Phenomenology, as approach, essentially studies the lived experience or the life world viewed by a person or a specific group of individuals of a certain context (Van Manen 1997 quoted in Lavery 2003). The core stance of this approach is based on the world as *lived* by a person, not the world or reality as something *separate* from the person (Valle et al. 1989 was quoted in Lavery 2003).

Examining experiences on interconnected social and real life phenomena of individuals or groups make rational sense of the social world. The application of the phenomenological approach permitted me to perceive and identify social phenomena from the informants' own point of view unfolding the world experienced by the subject 'Sundarbans.' The phenomenological memo, mangrove forest, local ecology and environmental security are associated with the daily life of the informants. Therefore, immersed with the community

members as well as listening to their insights proved to be a good way to hold their understanding for satisfying the study aim.

Tools of Data Collection:

In term of data collection, fieldwork usually involves the researcher participating, overtly or covertly, in people's daily lives for an extended period of time, watching what happens, listening to what is said and asking questions through formal and informal interviews, collecting documents and artifacts (Hammersley and Aktinson 2007). Furthermore, observation is defined as "the systematic description of events, behaviors, and artifacts in the social setting chosen for study" (Marshall and Rossman 1989, p.79 was quoted in Kawulich 2005). Observation in fieldwork includes active looking, improving memory, informal interviewing, writing detailed field notes, and perhaps most importantly, patience of the researcher. Considering observation as a process, I placed myself in the position to learn about the activities of the informants in a natural setting, so that I could have the advantage of witnessing and participating in day-to-day or routine activities, an additional experience complementing listening to whatever they said. In addition, establishing rapport with the area inhabitants engaged me in having a close look into their social and cultural practices of gleaning forest resources from the Sundarbans.

As a participant observer on a voluntary basis, involvement in the day-to-day deeds with the people being studied conveniently enabled the researcher to capture not only the location of the forest and informants' wide range of salient tasks, but also their patterns of interactions with the forest resources. Throughout the fieldwork that followed, I was able to discover an in-depth understanding of community member's behavior and attitudes towards forest resources of everyday context. When I crossed the river "Kholpatuta" for my entrance into the field, and my return to the rented house by motor boat, I observed the condition of the forest. It was a good strategy to record the observed issues for my field notes and snapshots.

Unstructured interviews, a kind of in-depth informal conversation, are used as a primary method of data collection, in eliciting people's social reality. Fundamentally, the core purpose of conducting an unstructured interview is to uncover to the researcher unanticipated themes, and to help him or her to develop a better understanding of the interviewees' social

reality from the interviewees' perspectives. Patton (2002) suggests unstructured interviews as a natural extension of participant observation, because it more often than not occurs as part of ongoing participant observation in the fieldwork. Owing to the flexible nature of unstructured interview, it was employed here to capture the outlooks, conducts and insights of forest goers and non-forest users into the forest resources.

With a view to taking collective views of the informants, the study design also used focused group interviews. It is defined as a qualitative data collection method, relying on group interviews to elicit perspectives and views revealed through social interaction, in which participants are screened for similar characteristics relating to the underlying research questions (Reed and Pads kocimaite 2012). Generally, each group consists from as small as four persons up to a dozen. I used to commence conversation introducing with each other, and explained my study objective briefly in the local language. Particularly, I preferred participants who already knew me with a view to overcoming the taboo and crosschecking their understandings on the forest. During home visits, unstructured talks to the participants helped me perceive deep insights into how and which ways are adopted for their lives in the light of mangrove forest, "Sundarbans."

Sampling Procedure:

The purposive sampling technique comprises of selecting certain units, or cases, grounded on a specific purpose, rather than randomly. More precisely, it is framed to pick a small number of cases that propagate most significant pieces of information about an interlinked set of phenomena (Teddlie and Yu 2007). Strategically, it was preferable for the study as the main aim was to document people's activities in the mangrove forest, and women's interaction with forest resources. Subsequently, purposive sampling as a rational choice offered the interested participants a chance to take part in the research process to express their ideas, practices and opinions independently. It indicated that informants who could satisfy the research objectives, and who were inclined to participate in the research process were sampled. A total of eighteen women and seven men constituted the sample size for study. Besides, in order to document the men's perception explicitly, the research design also prioritized their concerns. Feasibly, it created the opportunity to find out a detailed answer to the first study question.

Recruitment of assistants:

I was born and brought up in the district town of Satkhira, approximately 45 kilometers away from the study setting. While receiving my early schooling at childhood in my native town, I had been trained to use the standard form of Bengali language for smooth communication, in both formal and informal settings. But in the study site, local people speak their own regional dialect of Bengali language, which appeared bit difficult for me to understand the community's traits and attitudes, especially with women. Although I, myself, was a frequent user of my own dialect of Bengali language, it required me to recruit two assistants- a man and a woman, well-acquainted with the local community members for ancillary linguistic help.

Most of the forest going women at the study setting do not have any more than a low level of schooling, and adopt a conservative outlook based on the Muslim religious perceptions. In this case a well-known woman was required to have an access to these groups of women. After my arrival at the study site, I communicated with a village leader in finding out a friendly and educated woman as a research assistant, while the male assistant was recruited prior to reaching the field.

For lessening the power- relations between assistants and researcher, I played a friendly role, asking them about their lives, studies and leisure activities while they were assisting me. Since I was junior to them by age, but adequately educated, they had little initial problems talking to me, but my friendly behavior made it easy to establish a good relation with them. During the interviews, I would have to have the control and make the decisions vis-à-vis various open-ended questions. Also, it seemed that the assistants were lazy at the initial phase of the study. It was essential to inform the assistants about the core intention of conducting the field work following a participatory approach. I clarified each and every research aim to them, and tools to be applied to achieve the maximum information from the individual informant.

The assistants had an expectation of higher level salary, since they perceived that the researcher was from a Norwegian University with huge amount of money in hand. After having a better understanding, I clarified to them about my position as a student of master degree. Following this, I had talked to my assistants politely and tried to follow their customs and gave them preference in sharing their social world where they used to live happily since their birth. It enabled me to sustain a sound rapport with them.

Field Diary:

Harding (2008) argues that a field diary is a useful instrument in order to replicate upon your own role in the field during your research. The field diary as filed note is useful as a way of therapy. I tried jotting down all the experiences I gathered during observation, and wrote answer of the relevant questions retorted by participants.

Structure of the Gathered Data:

Observation Data:

Observation as a key technique for data collection took place at the dawn and concluded before sleeping at night. It continued up to three months. The first two weeks of the fieldwork were spent for establishing rapport with the community members. From dawn till 9 pm, I passed my time with the community members in order to better understand their attitudes and behaviors and their daily lives. It appeared that local inhabitants accepted me easily; possibly in part because as I usually wore 'lungi' and a towel, two of the most common local costumes. I observed the following: when women and men woke up, what they did in their households, how they prepared before going to the forest, and how they dressed themselves before going to the forest.

After about three weeks, my assistants asked for permission to escort women in their wooden boats for going to the forest. Initially they denied, and then we started taking morning meal with them to become better acquainted, and engaged in other behavior to show our friendship (my gatekeeper was a good guide about how to behave). Eventually, we received permission to accompany men and women into the forest, where we then observed their behavior. We noticed how they gathered forest resources, and how they transported these resources to the market. During the three months of field work, my observations helped me to comprehend the attitudes and behavior of the forest goers. I also noted the condition of the forest where some areas have limited trees and plants. The local people told me it was the outcome of the Sidr and Aila.

Unstructured In- depth Interviews Data:

Minichiello et al. (1990) described unstructured interviews as interviews in which neither the question nor the answer categories are predetermined; rather the unstructured

interviews rely on social interaction between the researcher and the informant. This is why the spontaneous generation of questions in a natural flow during interactions with the participants is required. For me, it was not a difficult task, as I accomplished my former graduate studies' field work in the same region in 2011. Previously gained knowledge about the community customs equipped me with the deep insights of the respondents' notions into the thematic areas designed for the study. The members of the study region preferred talking enthusiastically about their lives connected to the Sundarbans forest. This is precisely why, once the conversation started, it had consumed a great deal of time. In this case, when the talks turned irrelevant and did not satisfy with study objectives, I had to resume control over the discussion to make them precise and relevant. Nevertheless, I encouraged the interviewees to share their own experiences and perspectives, which were relevant and seemed relevant for the study.

Twenty-five unstructured interviews followed by open-ended questions were executed. Each interview lasted for a minimum of sixty minutes. Unstructured talks with the informants commenced in explaining the purpose of the research. As the study follows phenomenological approach, I started discussion on three thematic areas (mangrove forest, using pattern of the resource and environmental security) in local language. This kind of face to face, in-depth talking, supported my insight of the informants' own experience of their livelihood into the mangrove forest. Also, I came to know how the social and cultural perceptions on the *Sundarbans* are exercised over the years. During interviews with the community, a lot of interesting local terminologies on the mangrove forest, numerous myths about the forest had been documented. Important quotations of their own language were written in the field note during conversation. A digital audio recorder was used to record each informant's valuable opinions.

Focused Group Discussions Data:

Two focused group discussions were arranged at *Shora*. For each discussion, Open-ended questions followed by key words (see Annex: 2) were asked for productive interaction between group members. It was guided to have responses in a round-robin fashion, or for unstructured brainstorming (Kitzinger 1994 was quoted in Reed and Pads kocimaite 2012). In the first Focused Group Discussion, a heterogeneous category of informants i.e. women and men were invited to make them share a deeper understanding on the mangrove forest. The

discussion continued for three hours. The second focused group discussion was arranged at the distant part of Shora situated close to the Sundarbans. A homogenous category of female forest goers attended the session. It was preferred since women in this locality frequently go to the forest, as their lives are directly dependent to its resources. The discussion commenced at seven o' clock in the evening, generally when inhabitants at Shora used to take preparation for dinner. The role played by my gatekeeper made it possible to continue the discussion more than two hours. The women participants' talked about their forest going habits, how the society treats them, and what risks they have to face in the jungle.

Owen (2001 quoted in Reed and Padskocimaite 2012) agrees that an ideal moderator having background in conflict management possesses the capacity to sustain group focus on the research topic, and the ability to avoid becoming personally involved with the participants. I engaged myself as moderator for each discussion, and kept my assistants alert in recording quotations as well as noting silences or moments of discomfort of each individuals. Thus body languages and facial expression of the informants were closely monitored to perceive their actual insights into the research agenda. At the end of the discussion, a small dinner packet was served to each of them.

Triangulation:

Triangulation is regarded as an essential methodological tool in order to examine the strengths of validity and reliability of qualitative research, as well as quantitative research. The aim of triangulation in qualitative research is to combine two or more aspects of research (Polit and Hungler 1995 in cited Thurmond 2001, p. 253) or an amalgamation of two or more data sources, investigators, methodological approaches, theoretical perspectives (Kimchi, Polivka, and Stevenson 1991 in cited Thurmond 2001, p. 253) to fortify the design as well as to increase the ability to interpret the findings (Polit and Hungler 1995 cited in Thurmond 2001, p. 253). As the study adopted the three data collection tools (Observation, in-depth Interviews and Focused Group Discussion) as well as two theories, it operated through triangulation.

Data Analysis:

The analysis of the qualitative data begins in the pre-field work phase, in the formulation and clarification of research problems and continues through to the process of writing reports, articles and books (Hammersley and Atkinson 2007). The authors further direct that the analysis of the data starts to take shape in analytic notes and memoranda, and the entire process depends on the investigator's ideas about the study topic and hunches. Therefore, it is necessary to identify core themes from the gathered data. The themes originate together with the data, and the researcher's basic theoretical understanding of the phenomenon, under study. The priori themes come from the characteristics of the phenomenon being researched; from already agreed on academic and professional definitions available in literature reviews; from local, commonsense constructs; and from researchers' values, theoretical orientations, as well as personal experiences (Bulmer 1979; Strauss 1987; Maxwell 1996 quoted in Ryan and Bernard 2003).

Since the transcription of the data as well as its translation from Bengali to English was accomplished after arrival to Bergen, I had decided to use the descriptive coding to summarize the data. The task appeared too tough and time-consuming to produce study connected themes of the data. From September to November 2012, I devoted myself to find out themes from the empirical data as directed by Ryan and Barnard (2003). Consequently, I explored 20 basic themes from the initial coding, as listed in the **TABLE 1**. To sum up the basic themes presented in the TABLE 1, I used the *Thematic networks: an analytic tool for qualitative research* designed by Stirling (2001) that outlines the extraction of: (i) lowest-order premises evident in the text (Basic Themes); (ii) categories of basic themes grouped together to summarize more abstract principles (Organizing Themes); and (iii) super-ordinate themes encapsulating the principal metaphors in the text as a whole (Global Themes). Stirling's manual was used to arrange the 12 Organizing Themes and 3 Global Themes as presented in the **TABLE 2**. Subsequently, from **TABLE 1** and **TABLE 2**, it was convenient for me to construct a 'Thematic Diagram,' that outlines the detailed information of empirical chapters.

TABLE 1: From codes to themes

<i>Codes (Step 1)</i>	<i>(Issues discussed)</i>	<i>Themes Identifies (Step 2)</i>
-Entry to the forest	<ul style="list-style-type: none"> •Local myth •Holy place •Religious discourses •Short period of time •High water/Low water •Extended period of time •Muscular power 	1. Sundarbans in several names 2. Forest going 3. Forest connected myths
- Widow	•Tiger attack	4. Categories of Women
- <i>Jele-Baoalie</i>	•Husbandless	5. Women's access to forest
- Divorced Women	<ul style="list-style-type: none"> •Small branches of rivers •Polygamy •<i>Bedhobapolle</i> 	
- Men headed households	<ul style="list-style-type: none"> •Brotie, an NGO •Deepest part of the forest •Challenge taker and earner- of the livelihood •Men are banks 	6. Men's access to forest
- Forest resources	Trees: Gayoa, Bain, Dundol Posur, Hetal, Sundori, Kawra, Goalpata Goran, Kawra Fishes: Chati, RenuPona, Powa, Tangra. Vetke, Passea, Vangan, Med Others: Honey, Deer, Royal Bengal Tiger, Crocodiles, Snakes, Olives	7. Resources in Sundarbans
-Corruption	<ul style="list-style-type: none"> •Men give bribe to the officer •Permission •Women hardly take permission •Forest rangers 	9. Corruption in the forest office
- Deforestation	<ul style="list-style-type: none"> •Flagged/non-flagged boats •Unplanned use •Group based activities •Tsunami, Sidr, Aila, Gorke •Excessive gleaning •Biodiversity loss 	10. Forest for the future generation 11. Before, and after dimensions of cyclones

-Women and nature	<ul style="list-style-type: none"> •Close connection •Forest as family •NGO training 	
-Gender division of labor	<ul style="list-style-type: none"> • Unpaid tasks • No choice and options • Limited scope for applying agency • No access to credit and control over it 	12. Interactions to the forest resource 13. Active participation of women 14. Women's invisibility in market place
-Local customs	<ul style="list-style-type: none"> • Conservative attitudes of the society • Masculine norms and values • Women are domestic servants 	
-Agent of environment	<ul style="list-style-type: none"> • Ecological ethics • Resource saving technique 	15. Women's indigenous knowledge
-Local Ecology	<ul style="list-style-type: none"> • Food • Salinity in the water • Infertile land • Sources of vitamins • Oxygen factory • Increased temperature • Aftermath of 'Sidr and Aila' • Resistant of cyclones 	16. Main source of cash income 17. Existing environmental resources 18. Trees are silent contributors 19. Cyclone center 20. Tree plantation

TABLE 2: *From Basic to Organizing to Global Themes*

*Themes as Basic Themes**Organizing Themes**Global Themes*

Sundarbans forest at a glance: Informants' Perspectives

- | | |
|--|--|
| 1. Sundarbans in several names | Acquaintanceship to the forest |
| 2. Forest going | Forest going practice |
| 3. Forest connected myths | Forest serves basic needs of life |
| 4. Categories of women | Unlawful ways |
| 5. Women's access to forest | Customary use of the mangrove forest resources |
| 6. Men's access to the forest | Changes in the use of the forest resources |
| 7. Resources in Sundarbans | |
| 8. Local cultural practices | |
| 9. Corruption in the forest office | |
| 10. Forest for the future generation | |
| 11. Before, and after dimensions of cyclones 'Sidr and Aila' | |

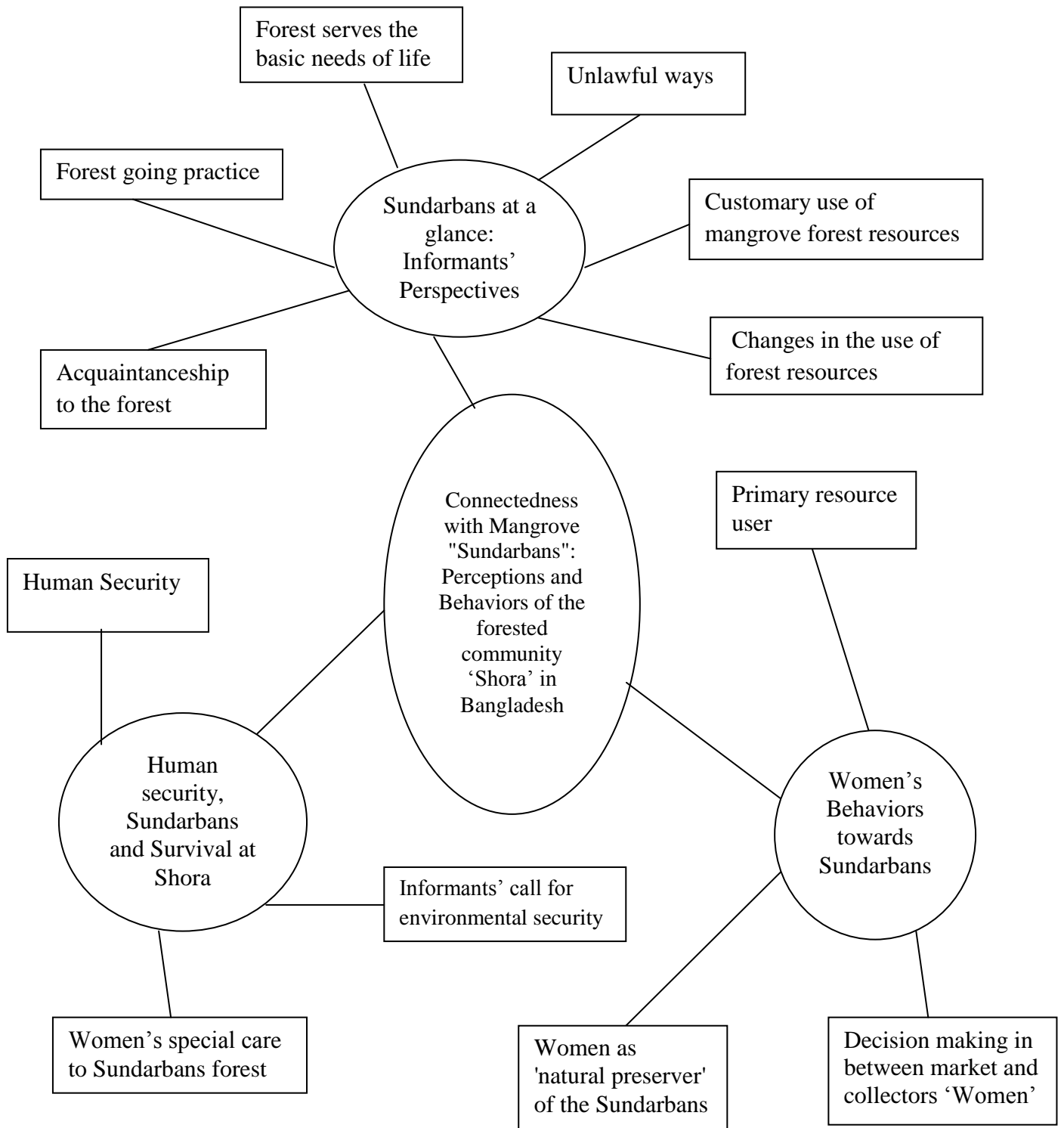
Women's Behaviors towards Sundarbans forest

- | | |
|--|--|
| 12. Interactions to the forest resources | Primary resource user |
| 13. Active participation of women | Decision making in between market and collectors 'Women' |
| 14. Women's invisibility in the market place | Women as 'natural preserver' of the Sundarbans |
| 15. Women's indigenous knowledge | |

Human Security, Sundarbans and Survival at Shora

- | | |
|--------------------------------------|---|
| 16. Main Source of cash income | Human Security |
| 17. Existing environmental resources | Informants' call for environmental security |
| 18. Trees are silent contributors | Women's special care to Sundarbans forest |
| 19. Cyclone Centre | |
| 20. Tree plantation | |

Figure: Thematic diagram constructed with the help of TABLE 1 and TABLE 2.



In the Thematic Diagram; the center-circle 'Connectedness with Mangrove forest "Sundarbans": Perceptions and Behaviors of the forested community 'Shora' in Bangladesh' shows the key theme of the thesis. The center circle connects three sub-circles surrounded by few rectangles. The sub-circle 'Sundarbans at a glance: Informants' Perspectives' at the top of the center circle is the title of first empirical chapter 'First Global Theme' that attempts to answer the first study question in details. The items listed in the six rectangles at the sub-circle are the subsections 'Organized Themes' of the chapter that tend to elaborate the discussion with the support of 'Issues discussed' section presented in the TABLE 1. However, the sub-circle at the bottom right, 'Women's Behaviors towards Sundarbans,' thoroughly presents the essence of the second empirical chapter 'Second Global Theme' for answering the second study question. Moreover, the items listed in the rectangles adjacent to the sub-circle are the subsections 'Organized Themes' of the chapter. In addition, the sub-circle at the bottom left 'Human security, Sundarbans and Survival at Shora' presents the third empirical chapter 'Third Global Theme' in which I attempt to highlight the detailed answer of the third study question. The three rectangles 'organized themes' encompassed by the sub-circle list three key points 'Subsections of the chapter' for the greater detail discussion of the chapter.

Problems encountered in the field:

I encountered several complications during the field investigation. Firstly, it was a little difficult to get permission from the local forest office to have free access for the research activities. The governmental officials get confused whether the entrants cause harm to the forest resource or disturb the wild animals in daytime. Although tourists need the entry permission from the respective ministry, I had to ask for permission from the local forest ranger. The officer in charge demanded bribe from me, as he came to know that I will do the study on behalf of the University of Bergen. While the research aims were well clarified before the head of the local forest office, the researcher was permitted to access into the forest.

Secondly, as data was collected during rainy season, the community road networks turned muddy when it rained. In this case each and every day, I had to rent a motor boat twice to access in the field. During crossing the river, I turned pale as I did not know how to swim, and always thought I would drown. I can remember what happened on 17th July when it rained incredibly heavily. It was signaled that a cyclone was brewing in the Bay of Bengal

which might hit in the study setting. When I was in the middle of the river while returning from the field in the late evening by an ordinary wooden boat, the boat started dancing in the tempestuous wind. I was startled, and surprisingly my small bag contained the camera, laptop and cellular was dropped. Therefore, I rented a camera for three months from the city center for capturing the snapshots of the informants.

Thirdly, I struggled with the local food, which was quite unhygienic, and sometimes I would go hungry. I had to come to the local town to take food. After staying fifteen days I was taken ill and suffered from dysentery and dehydration. Consulting with the doctor and having proper medicine, I recovered in three days. Also, the area belongs to solar energy based electricity, hindering the people's use of the internet for smooth communication with others.

The Role of Researcher:

A qualitative inquiry entails the quality of scientific knowledge, and the soundness of ethical decision reflecting the researchers' integrity as well as personal commitment towards the research project (Kvale and Brinkmann 2009). It involves the moral integrity, as well as his or her sensitivity to issues and actions performed before informants. Taking these into account, I was well aware that using different dialect of the Bengali language could make the informants unhappy during the interviews and focused group discussion. It was found in the field that most of the forest resource collecting women was divorced, widowed and aged. Owing to the ultra-family status and nurturing firm religious identity, it was a little difficult to talk with the women informants. When they were confirmed about the researcher's personal identity, as well as residential detail, those women willingly considered me their junior brother, and agreed to participate in the research process.

I realized that the women informants feel shy during the conversation at times when their husbands go outside the homestead. While talking with the women informants, I was wondering about my intellectual and strategic suitability to explore women's perceptions as well as their attitudes and behaviors. In this case, Hesse-Biber's (2011, pp.38-39) description of reflexivity is a better fit to clarify my positionality. It informs the awareness of the researcher from his/her background and beliefs, and their position in the field, which is present during the construction of knowledge in the field. Also, Lal (1999) points out it would

be some times unavoidable to influence the field by identity and self since we would automatically affect the field with our choices and research process. Therefore, we should be aware of our self-influence and reflect on it.

Since I was only twenty five years of age and unmarried, very much junior to them, I assume that sometimes respondents were confused as to why I was asking them questions about their lives. I came to realize that the power relation between the researcher and informants and the stereotypical socialization of the women informants caused them to feel shy before me. Frequent movements to the field and playing with the informants' children on a daily basis made it possible to solve the problem

Joppe (2000) unfolds validity in qualitative research as rigor, quality and trustworthiness emphasizing the actual representation of the social phenomena. It denotes the accuracy and relevance of the subject to be researched, and affirms the actual representation of the research agenda. While Hammersley (1992, p. 67) defines reliability as, “The degree of consistency with instances is assigned to the same category by different observers or by the same observer on different occasions.” With a view to overcoming the contextual bias about the research agenda, and ensuring validity and reliability for the credibility of the data, I combined multiple methods of data collection (as described earlier). I double checked the gathered data, and if any inconsistency was found in the data, I crosschecked by communicating informants immediately, self-correcting interview for informant's validation etc. In addition, I attempt to avoid misinterpretation of the data as to produce a trustworthy result for sustaining the quality of the study.

Ethical Considerations:

As the field work was accomplished on behalf of a Norwegian university, the clarification of the Norwegian Social Science Data Services (NSD) was required. As per the discussion with the program director of Gender and Development, University of Bergen, it was decided the data would not disclose the informants' identifiable information; I was assigned not to have permission from the NSD. It made me determined to sustain the ethical standard of the fieldwork.

Informed Consent:

At the beginning of interviews and focused group discussions, all participants in the research process were informed clearly about the motive of the study, and offered opportunity to ask for any explanation. It was arranged so that they could realize why I was involved in the community. Initially, participants were very curious about me, probably hoping that I am going to provide relief goods, and place them in a comfortable shelter to be built up in the region for the disaster affected people. In addition, it appeared to me that informants were inclined to be video recorded to be played back in Norway, representing their sufferings resulted from the Aila and Sidr. In this case, they were a bit emotional in narrating their experience of the disaster. I could not stop them, and kept listening to their voice minutely. Further, I had to describe the study purpose clearly, telling that their life story in relation to the forest and disasters as well as their longed for secured environment will be written by me. In this way, they agreed to join the discussion, and gave their consent, which was conserved. A digital audio recorder was used explicitly so that the participant can understand that their consent had been given priority, and privacy had been maintained.

Anonymity and Confidentiality:

Asking the name of the people during the formal or informal conversation is decorum in rural society of Bangladesh. Shora's people like to be addressed with honor by them whom they do not live with. As a part of it, at the time of interviewing with the villagers, I had to ask their names and their residential history, and also introduced myself in the local language. During interviews with the aged women, they talked in a low voice and preferred to not be recorded. I followed their behaviors and acted as their local boy.

But, purposefully, I did not record their personal details as well as identifiable statements that might not be traced in anyway. As soon as each interview concluded, I could play back the recording before the informants to ensure their privacy. During focused group interviews, participants advised me to jot down their name and cellular phone number for further communication. I informed them in a friendly way that it is not required for the study, only for their valuable opinions. The audio recording of individual interviews, and focused group interviews, transcriptions of interviews, and field notes were maintained confidentially by me. I promised to the participants and the village leaders that all audio records and filed notes would be deleted or erased after the completion of the thesis write-up.

Chapter Five

Sundarbans at a glance: Informants' Perspectives

Introduction:

Over the years, the inhabitants of the Shora region of the Sundarbans evolved an in-depth indigenous pattern of knowledge about the mangrove forest. Since the pattern is discernible in the overall perceptions of the informants about the region, its resources and usage, this chapter intends to decode the structure of knowledge. In order to unscramble it, I would describe how the inhabitants acquire the knowledge about the forest in the first place, how the forest-ranging has become a practice, and what services they can procure in return from it. Incorporating pertinent literature, the chapter also construes the assumption of the standpoint theory. Based on the empirical data gleaned from the study region, I would focus on the experiences of the forest-rangers; about their use of the natural resources available there. In order to show where some points remain still demonstrable even after research, I would last of all bring up the studies previously conducted on the region.

Acquaintanceship with the forest:

Exploring the area inhabitants living in the mud houses, the observation data indicates the extreme poverty in which they have to eke out a living. Such a penurious condition leads them to a struggle of survival, and of making do with the local resources available there, a phenomenon that transcends the boundary of mundane struggling life, and encroaches onto their entertaining and didactic ritual of storytelling. At any opportunity of sharing their life-stories with children or outsiders, they would like to recount the experiences they went through. Typically narrated by the senior members of the family, such as parents, grandfathers, and grandmothers, each story describes the pathetic scenario of their lives in relation to the forest. Turning in to a trend over the years in the locality, the practice of storytelling is allocated some suitable time slot, the late evening after dinner being the most usual one. During the summer when it rains, the forest goers stay inside their house, spending leisure time through gossiping with the family members. Most often their conversation with their family members during the moratorium involves the history of the Sundarbans, forest connected myths, how the forebears used to go the forest, and the challenges that they face in

the forest now. In the study setting, it has been found that the story telling practice is handed down through generations in the course of time.

In winter, informants bear the brunt of intensive cold, due to the wind blowing from the river *Kholpatua*. On wintry nights, family members of each household get together in the courtyard to be warmed by the fire they make with the leaves, straw and woods. Sometimes, next-door neighbors come to join the host to be warmed by the fire. This gathering makes the environment interactive, when participants converse with each other about what happens daily to the household. In addition, the discussion touches on what has been collected from the forest, the market value of the gathered forest resources, and the prediction of how long the market value will contribute to the family welfare. Listening to such conversations provides a clear indigenous picture about the forest.

A woman informant of 38 described the way of the area inhabitants' are getting acquainted with the forest in the following way:

“Since 1975, I have lived in this village. After the sad demise of my father, my widowed mother nurtured me. The best guide in my life, she taught me what to do and what not to. She died in the devastating cyclone Aila in 2009. When I was seven, I once could not but cry at the prospect of a violent tempest. The speed of the wind was horrifying, so I was quite unable to sleep that night. My mom came to me, caressed my head gently, and tried assuaging my fear, saying that Sundarbans, the almighty God, would protect us from the wrath of this tempest. The next morning I woke up to find our house including our neighbors' inviolate. From that rainy night, I came to understand that God infused the forest with great significance for our life.”

A man informant of 35 added that-

“Men in childhood become acquainted with the forest by their parents, in-laws, and next door neighbors. As soon as we turn aged over 20, 90% men of this area go to the forest with their father, and come to know what are the important categories of plants and trees, and how trees and timbers are used in the household and sold in the market.”

The above quotations clarify that story-telling is the primary step towards children's acquaintanceship with the forest. It is evident in the study setting that for acquainting themselves with the forest, the growing youth community prefers to interact with *Murubee*, one of the senior members of the community who is better conversant with the forest. A man or woman aged over 70 sharing their life experiences either sitting at the tea-stall, or on the riverbank adjoining the forest, *Murubee* is revered as pious, experienced, and respectable, as well as one of the think-tank in the *Shora* region due to their possession of the indigenous knowledge about life and surroundings. *Murubee* likes to call the Sundarbans as *Bada*, *Mal*, or *Jungle*. "These local terms are frequently spoken by the area inhabitants for years," said a *Murubee* man. During an observation on a sunny evening, when I requested him to share his acquaintanceship with the Sundarbans, he shared experiences with great enthusiasm.

"The Bada is like my son and daughter. Our existence is almost inconceivable without it. We had a joint family, together with my grandfather and grandmother. My father was the sole earner who used to go to the forest regularly. Once when our home was at risk, with the permission from the community leader my father made a small house near by the riverbank in April 1970. I recall that by shifting straw, wood and timber of Bada, I helped my father and uncles to build the house. When it was completed, my grandfather told me that your father dedicated his life to manage food and belongings for the family members. It was a challenging task to collect forest resources from the Bada. I was encouraged to go to the forest with my father so that he might be supported. As I was a kid, I could not satisfy what he expected of me. The wise grandfather once managed a boat for me to visit the Bada with him. As we were canoeing in the river furrowing through the forest, he told me a story chronicling how the Bada has become Sundarbans."

A *Murubee*, age: 73

The face to face, in-depth interviews and Focused Group Discussion (FGD) data intended to explore the women's acquaintanceship with the Sundarbans finds that the *Shora* women are commonly shy with people they do not know. Sometimes they also feel shy speaking to their husband in presence of others. Even though some three of them tried something, their words, as opposed to those of men, betrayed the hesitation to share their

insights into the forest. Interestingly, as soon as the husbands told them to speak out, one of the interviewee women expressed herself in the following way:

“In 1993, when I was in class five (Grade 5) at school located Dumuria, I had read a chapter on the importance of forest in Bangladesh in the social studies course. Before going through the chapter, the teacher brought all the class participants outside the class room. He told the students to look at the forest; he then described the beautiful green forest and explained the necessity of its resources for lives. It was a little confusing for me to believe the words of my teacher. Not understanding what roles Bada plays for us, I felt the need to bring the matter to my father, a honey collector. After ranging into the heart of the forest for more than two weeks accompanied by some of his colleagues, he returned drums replete with honey; it made all of us elated. Over dinner he recounted how honey was collected. Startled to hear from him, I could justify the words learnt from my teacher. Though I never visited Bada, after the marriage, I listened to the similar story from my husband.”

It is apparent that women informants are made familiar with the forest from not only the lessons learnt at the primary school, but listening to the father's forest going story in the homestead, and the husbands' descriptions. The core duty of wives is to take care of their husbands, as well as other family members. Therefore, wives' social world is compartmentalized to the homestead only. The interviewed women told that in absence of the husbands, they always like to speak to the neighboring women about the forest resources collected by their husbands, a tradition being exercised over the years in the region as the several interviewed women observed. Their opinions about the forest is influenced by, and their attitude subservient to, the patriarchal agent, a phenomenon with an uncanny resemblance to the male supremacy as accepted part of the natural order of the patriarchal society of Bangladesh, where women's ideological stance in the community level is affected by the men's gender ideology (Sultana 2010).

The traditional Bangladeshi society contemplates women as a daughter, wife or a mother, and that determines their role as the caregiver and household manager while men are deemed to be the financial contributors, which garners them the role of the 'Head' of the family. It also leads women's gender ideology against the backdrop of patriarchy (Sultana 2010). Tenable, the argument of the author can strongly be supported with evidence adduced

from the event when the women spoke about the forest only after the permission from their husband.

Forest going practice

The observation data reveals that women living with their husbands hardly have access to the forest, for their husbands manage to earn money for the family. The study documents two categories of women, such as *Jele-Baoali* and *Divorced Women*, who, however, have an access to the forest for their sustenance as opposed to the married women (wives) who only rarely venture outside the homestead. The *Jele-Baoali* and *Divorced women* are socially vulnerable in the region; consequently, they are forced to venture into the forest for survival. The study also documents the characteristics that proliferate in connection with the forest ranging of men. This subsection aims to spotlight the forest going practice of the informants, and the myths evolved as a common offshoot of such ventures, ending up interpreting the theoretical features of Standpoint theory as described in Chapter Three.

‘Jele-Baoali’ women:

Jele-Baoali women are the fishing community involved with making nets and fishing all year. The empirical data discovers that the *Jele-Baoali* women are the members of the Muslim community at the *Shora*. They prepare fishing nets by using cord, black color and pieces of irons imported from the Indian market. Even before the morning breaks, the forest going-women—*Jele-Baoali*—in the south of *Shora* set off their journey towards the Sundarbans. A group of 5-6 women usually ply a wooden boat to range into the forest. It takes almost one and half hours for them to reach the *Bada*. Getting down from the boat where the water is at breast level, the *Jele-Baoali* women catch a wide array of fishes, especially the “Pona” fish or the fingerlings, from the canals of the deep forest, using a special kind of net (e.g., *BerJal*, *Net Jal*, and *Box Jal*). The *Jele-Baoalis* come down in breast height water with their black colored nets. Nets are put into the water and kept for a while in the first place, so that fish are trapped. Later, it is pulled from one side to another (e.g. left to right) from the canal side. After pulling it for approximately 15 minutes in one direct, the women change the direction, and resume dragging it for another 15 minutes in the reverse. The

women usually strike in the canal bed with their hands so that the “Pona” (the fingerlings) hiding in the riverbed are frightened, and come out, and thus get caught in the net.

The *Jele –Baoali* possess an indigenous pattern of knowledge of catching *Pona* called *Ochol*. ‘*OcholJhara or OcholDeya*’ involves a process in which the *Pona* are collected from the net, sorting out the *Pona* from the unwanted dirt accumulated in the net. In the ‘*Ochol*,’ there may be crabs, ‘*meku*,’ ‘*Methi*’ etc. *Pona* are separated from these substances. A transparent shell of snail is used to collect the black colored ‘*Pona*’ and put them in the silver pot filled with water. Usually two types of ‘*Pona*’ such as the young fish of the (BAGDA) and ‘*Chati*’- the young fish of the (GALDA) accumulate in the *Ochol*. Besides catching fish, the forest-going women collect firewood as well. They use axes to cut dead trees from the river and canal side areas. In doing so, two indigenous patterns of cutting trees are followed. The first one is ‘*Kolomchekur*,’ similar to a fountain pen, and the second one is ‘*Ar Cope*,’ a plain cutting style of tree. Moreover, the *Jele-Baoali* women collect small wood timbers and leaves from the forest.

According to legislation (1993) adopted by the Ministry of Education of Bangladesh, the primary schooling (up to grade 5) costs nothing. Though the rules of law, irrespective of caste and creeds, sex and religion inspire the grassroots children to go to school, the *Jele-Baoali* women’s children are not in a position to take the opportunity. Born in the extremely poor family, largely ignored by the comparatively rich in the community, and typically construed as a domestic servant after marriage, the *Jele-Baoali* women become traditionally bound in the community. Confined to the qualified area of the family like childbirth, child rearing, serving the other family members, and foraging in the forest for fish; their life represents the dual burdens of women in the community constituting the truth of their social reality. The production and representation of knowledge about the activities and experience of these women demonstrates a contextual picture of the study setting. It is equivalent to the ‘sciences from the below’ as argued by Harding (2008, p.15) which prioritizes knowledge production on the women’s experience from the grassroots level (e.g., the remote setting of a territory that is equivalent to the ‘Shora’). In interpreting Mohanty (1991), it is argued that the standpoints of the *Jele-Baoali* women including their indigenous knowledge of collecting ‘*Pona*’ depicts the knowledge production on the ‘third world’ women of the fishing community.

Divorced women:

The in-depth interview data reveals that the men wed more than two times, and thus turn polygamy into a common practice in the Muslim community in the *Shora*. Forest-dependent men prefer to wed teenaged girls for gratifying their sexual pleasure. It is described that fish collected from the river enriched with iodine and protein increase the requisite sexual power for intercourse. The mutual bodily attraction between men and women or teenage girls causes a buildup of unsafe sexual relations, resulting in the unwanted pregnancy. According to the local customs, men are obliged to marry pregnant girls or women by divorcing their previous wives, or taking their permission. Divorced women never receive any maintenance costs from their husbands. After being divorced, a woman has to return to the father's house, unwelcome and without alimony. This distressful situation inevitably defines them as a burden and makes them a socially excluded group in the locality, and both the men and the married women in the community stigmatize them.

*Bedhobapollie*⁷ offers the dwelling opportunity for the divorced women where they can live with other divorced women in a friendly environment. It helps them to lead a grouped life where individuals treat each other as sisters. Four to five divorced women, sisterly in nature, consisting of a group rent a boat from its owner for a day by paying 200 Bangladeshi Taka for going to the forest. This group of women calls the Sundarbans forest *Jungle*. They compare the jungle to their best friend, for it provides them with resources considered the best option of making money.

The analysis of the observation data unfolds that the divorced women have been practicing forest connected myths over years. Divorced women who are Forest entrants worship the goddess '*Mabonbibi*,' a part of Hindu religion believing in the presence of almighty goddess in the forest. It seems significant to the divorced women because '*Mabonbibi*' is the symbol of women's power in the forest. Moreover, it is believed that if she is called before the sunrise by reciting from the verses, forest entering women would be protected from the threat of the wild animals in the jungle. Prior to entry to the forest, the divorced women call '*Mabonbibi*' by making their obeisance and by the silent recitation either from the *Gita*⁸ or from the holy Quran. A live hen or goat is dedicated to the forest, in the name of '*Mabonbibi*' in order to safeguard themselves against the dangers lurking in the

⁷It is a shelter home constructed by the NGOs for the divorced women.

⁸Gita is one of the holy volumes of the Hindu religion.

forest. Three or four boats of women enter into the forest simultaneously in a synergy, which is a good way to work collectively in the forest.

The groups of the divorced women go as far as a quarter kilometer inside the forest for collecting olives, *Kawra* fruits, *Omora* fruits, *Goran* timbers and small branches of the mangrove trees. Sacks and small bamboo-made baskets are carried out for putting the collected resources in it and for bringing whatever they glean to the shelter home. Among resources, salted green olives, a tasty popular food to women and girls in *Shora* are usually eaten in the afternoon, while ripe olives are cooked for taking with the boiled rice. Even sometimes, both green and ripe olives are sold in the market to earn money. *Kawra* is a sour kind of fruit used in making pickles by the divorced women. At first, green *Kawra* is dried in the sun for its wet layer to peel off. Later on, chili powder and soybean is used to make it spicy. The produced pickle is sold in the local market of the *Gabura Union*, allowing women to earn money. The Divorced women do not possess the skill set to make furniture, thus causing them to sell the planks of the *Goran* tree at a cheap rate to the local agents of the timber houses, but the small branches of the broken mangrove trees are used as firewood for cooking rice at the shelter home.

The male-dominated society in the study region makes the social acceptance of the divorced women living at the *Bedhobapollie* susceptible. For the patriarchal norms and values placing men in a breadwinner position, both at the family and locality, the conservative Islamic outlook of the community members, and also for the lack of inclusion of women in the local governance system (i.e., *Union Parisod*), the divorced women are confined to set up their own agency and social skills in the community. Therefore, that which is performed, and contributed to the society by them is institutionally ignored. These findings are well linked to the assumptions of Harding (2004) emphasizing the constitution of the relegated women's group's perspectives, and the power play of dominant social and political institutions (e.g., patriarchy, local governance etc.). It clearly interprets the social exclusion and marginalized position for the divorced women at the study setting, where they are considered to be an oppressed group, and their social positions are not recognized to the community and even to the state level.

Married women:

The informants report that with little schooling, and without information about the familial responsibilities, most of the girls under the age of 20 get married in the region. In the post marital phase at the *Shora*, the wives are engaged to play conventional family roles (e.g., cooking for the family members, giving birth, caring children and nurturing in-laws) in the household. It is apparent from the observation data after the post cyclone landscape, the informants of the visited households are to struggle for three square meals per day. In this case of cruelty of lives either caused by the extreme poverty, or the natural calamity, wives working inside the households have been forced to be involved to activities (paid and unpaid) outside the homestead, even though they do not go to the forest.

Wives are involved in both unpaid and paid tasks outside the home. The cooking for the household members, fetching water from a distant deep-well, producing vegetables through home gardening, and bearing the responsibilities of their children's schooling are such unpaid tasks that they perform. Beyond doing the chores at the households, rural women execute the mentioned unpaid deeds additionally to hold the familial bonds in a way husbands want. In performing those tasks on a regular basis in the region, women spend more than four to five hours a day that provides them with no monetary reward in return. This practice of doing unpaid jobs outside the homestead started after the catastrophic *Sidr* had destroyed crops, vegetation and other sources of living, leaving local resources diminished in the region.

The observation data shows that women participate in professional jobs outside home in the study setting; they get involved in: *crab processing, goat raring, animal husbandry, owning grocery shops, sewing mattresses, making dresses as a tailor, and selling Sari and Shaya* (petticoat). Generally, women with a background of a well-earning family are unlikely to become involved in these activities. Women from an extremely poor family, set-up with less income by their husbands are encouraged to do the paid job. The stakeholders (limited number of women interested to earn money by their own effort) take small amount of loan⁹ from the *Micro-Finance program* offered by the several national and local NGOs

⁹The small amount of cash such as 5000TK to 10,000 TK is given to women to operate business or income generating activities in the study setting.

(Grameen Bank, Broite, Asha, and Muslim Aid). It enables women to operate their income generating activities. The owner of a grocery shop told that-

“Being a boatman, the daily earning of my husband is too poor to afford the food cost for five members at the household. Earning barely enough money only in the summer time when the tourists from the town come to see the forest, he always finds it difficult to lead a good life. I recall starving along with my children for the three square meals a day. I could not tolerate the suffering of the children. Taking a loan from Grameen Bank, I started a small grocery shop where Shora’s women and men come to purchase daily essentials (rice, spices, ropes, Muri, Chira, Sugar, and Salt). Now I earn minimum TK. 150 to 200 a day. It has enabled me to provide an ancillary economic support to the family.”

Men’s forest going practice:

The Brotie¹⁰ household survey report of 2011 demonstrates that 48 percent of men of 1380 households constitute the entire population of *Shora*. It also shows that most of the households are headed by men. When men informants are asked about their understanding of the mangrove forest, they turn their eyes to the forest with great attention. Although the marauding “Royal Bengal Tigers” lie in ambush here and there, it is a very beautiful forest for them to roam through and earn from. The man informants articulate that if one goes to the forest in the sunny afternoon, the green leaves of plants will appear most stunning. Also, viewing the loping movement of the *Mayibiehorin* (Deer) in the day light is an extraordinary spectacle in the forest.

Concerning the activities of the men in the Sundarbans, they prefer to speak out about when and how they go to the forest, and what is done during their stay in the forest. The finding of the several conversations from in-depth interviews enunciates that men go to forest for *short periods of time (less than two days stay in the forest)* and *extended periods of time (more than seven days stay in the dense part of the forest)*.

Regarding the short period of time, the informants note that during summer months, especially in May, June and July, they wake up before 3 o’clock, prior to dawn. An appropriate time of stillness, it is when fish in the forest stream move from one place to another. After saying the Fazar prayer (the one said at dawn by the Muslims) and

¹⁰Brotie is a NGO working with the cyclone victims’ women and children in the village Shora.

breakfasting on *Pantavat* (cooked rice in fermentation), the forest going men get prepared for braving the forest. The informants use *Lungi* (sarongs), a napkin, and a fitted shirt as their costume. They also anoint their entire body with mustard oil keep it slippery, a process which they believe safeguards their skin from the attack of poisonous insects in the forest water. A group of 10 to 15 married men over 35, including young men aged around 25 to 30, hires a motor boat for ceremoniously entering the forest.

Before stepping on the motor boat, they take stuff such as entry card issued by the local forest office, axes, ropes, shovels, knives, baskets, nets, hand-made traps with *Borse* (a locally manufactured fishing line), pieces of beeves to be used as food for crabs and drinking water for them. Initially, they drive the motor boat very speedily to vie with the sunray to reach the canals. The moment they near the bank of the canals, everyone recites the *Aitalkurse*¹¹ or says the *dowa* of the prophet Yunus. Now getting down from the boat with their axes and ropes, they begin felling the timbers of the *Hetal*, *Kawra* or *Sundori* trees. It takes approximately three to four hours them to collect a timber from its main root. When the timbers are cut out, men strike at the upper part of the trees with their sharpened axes. This process also involves using shovels to separate the timber from soil. The application of both instruments requires adequate muscular strength. Afterwards, the separated timbers are tied strongly with ropes for placing under the motor boat.

Once the canals start being replenished with high-water from the river, the forest goers depart the place with the timbers they have accumulated so far. While returning, each group forks into two sections on separate boats for placing the handmade traps in the river to hunt crabs. Each piece of beef is added to the *Borshe*, for baiting crabs into the traps.

An exceptional practice of illegal logging aiding the forest goers into the deepest forest is noticeable in the study region. It is the poor honey collector community known as *Mawali*, breaching the law that goes to the forest especially in the *Bengali* months of *Baishak* and *Chattro*. The area habitants enumerated the following months to be the best times for gleaning honey:

‘I have seen my Mawali (honey collector) father gathering honey from the deepest part of the forest. Collecting honey is a challenging task as bees in the hive bite the collectors. However, before going to the forest, my father along with his friends

¹¹Aitalkurse is the Islamic verses written in the Quran.

planned a stay in the suitable corner of forest where the hives of honey would likely appear. After the planning phase, they procured the food stuff, and requisite cooking and sleeping instruments on the motor boat. They set off for the journey at mid night, when the river, Kholpatua, swelled up with high water. It took 48 hours them to reach their destination. Before gleaning honey, the team uttered Aitalkursee as a talisman to protect the area from the sudden assault of the marauding animals. They collected honey by using their indigenous skills. My father and his mates once reached home more than a week later from the forest. I found one of my father's legs missing. Agitated, I stammeringly asked him what had befallen him during his sojourn in the forest. Recounting the gory details of the incident, he replied it was a marauding tiger that had mutilated his leg. 'Fortunately,' he gasped, 'it saved my life.'''

Forest serves the basic needs for life:

The World Wide Fund for Nature, (WWF) in 2013 reports that forests cover 31 % of the total land and the livelihood of 1.6 billion people depends on forests. It also reveals that the forest houses more than 300 million people worldwide. The statistics can be evidenced with three kinds of important life-saving forest resources such as honey and shrimp, numerous fish like *Chati, RenuPona, Powa, Med, Tangra, Balae, Pangas, Vetke, Passea, Vangan, Crabs* and trees such as *Sundori, Gaya, Bain, Dundol, Posur, Hetal, Kawara, Golpata, Goran, Olive* found at Sundarbans.

To the informants, honey is the most valuable gift of the forest. They are all convinced that honey is the best natural gift created by Almighty *Allah*. At the time of the prolonged drought in summer, which parches the local tube-wells, the informants suffer from the dearth of safe and pure drinkable water. Because the ground water is irretrievably contaminated with arsenic, and the water layer plummets unusually low during the spell, the informants are on an arduous quest for an alternative source of drinkable water. Confronted with such a catastrophic social reality, the inhabitations are forced to drink honey as a substitute potion. The woman informants, who are often responsible for supplying water for the family, opine that drinking honey saves them from going to a distant place for bringing water. It is drunk with bread in the breakfast. In addition, honey is deemed to be infused herbal medicinal effects which they claimed cure 108 kinds of diseases attacking the human body.

The study setting is known as the ‘White Gold’ of Bangladesh precisely for the glut of shrimps available there, and especially for the women’s professional involvement in this sector. The observation data documents women’s shrimp catching at the canals in the forest.

“The shrimp catching is one of the main sources of occupation for women in Shora. Small shrimps ‘Chati and Renu Pona’ (fingerlings) are found in the saline water of the small rivers of the forest. They are caught twice a day. When the high-water swells up with the canals water, we set up nets in order to catch the fingerlings. After we collect and bring them home, the local middlemen, locally better known as the Furi, purchase them from us. The middlemen then sell these shrimps to the local market at a far higher price than they buy with from us. Because women are impermissible to go to the market and are unaware of the current rate of shrimps, we are often duped by the dishonest middlemen. With the pittance earned from catching shrimps, we have to eke out a living and afford education for our children at school.”

A shrimp catcher woman, age: 43

With regard to the basic needs from the fish resources of the forest, both men and women informants note that the *Powa, Med, Tangra, Balae, Pangas, Vetke, Passea, Vangan and Crabs* used to be sold as the traditional food in the city station. It is reported that the sea fish enumerated above are quite popular with the consumers for the high level of iodine requisite for a healthy life. More importantly, doctors prescribe anemia patients food enriched in iodine found in the fishes caught from the forest surrounded small canals. In the years preceding 2009, crabbing catching would bring a lot of income, both for men and women, since they were then sold at a far higher price than now. It was precisely because crabs attracted more foreign markets then, and Bangladesh garnered a lot of European remittance. Before the catastrophic *Aila* devastated the region, the crab catching community was the richest class in the study setting, as described by a woman informant.

Informants believe that the exquisite beauty of the *Sundori* trees attracts tourists from far and wide. They prefer to have a trip by boat into the forest for sightseeing and capturing

the snapshots of the extraordinary spectacle of the mangrove plants. Ferrying them across the forest is a good source of earning money in summer. During the boat trip in the forest, tourists love to see golden deer, *modantak* birds, owls etc. They also enjoy seeing monkeys cavorting from one tree to another and the activities of the journeyman *Golpata* collectors. After boating for some 2 to 3 hours, tourists often end up visiting the ‘Nildumur Camp,’ a menagerie of tamed monkeys, forest birds as well as crocodiles.

The timber of the *Sundori*, *Gaya*, *Bain*, *Posur*, and *Hetal* trees is very useful for informants. As a matter of fact, the Sundarbans is believed to have been named after the *Sundori* tree. Its timber is resistant to moisture, so the aristocratic urban people buy it at higher price, in order to construct fashionable houses in the city. The prospect of earning a higher price motivates the local people to fell the *Sundori* trees for commercial purposes. On the other hand, the *Gaya*, *Bain*, *Posur*, and *Hetal* trees are collected for firewood to cook food in the house and for making diverse equipment (e.g., sofas, tables, sleeping cots, electric pillars) to be sold in the market. It is important to note that wood pencils used by the school going children are prepared from the *Dundol* tree. While making the point, the informants repeatedly claimed that the raw material for the pencil making industry in the divisional town solely goes from the forest. In addition, the pickle, as well as *Tok*¹² comes from olive and *Kawra* trees. *Tok* is considered the best source of vitamin C in Bangladesh.

The observation data shows that by breaching the laws, the area inhabitants damage the potential of the forest resources. The discussion that follows enlarges on the diverse ways the forest resources are used in the study setting.

Unlawful ways:

The illegal felling of the forest trees results in the gradual deforestation in Bangladesh, a grave crime perpetuated by the cartel acting from behind the scene (Islam and Sato 2012). Side by side, the illegal felling of trees by the local people, the malfeasance of the forest officials who often act in collusion with the cartel is aggravating the situation even more. Despite the Forest Act 1927 legislated during the British colonial period, which were further

¹²Tok is a soured liquid eaten with rice at lunch in the rural villages of Bangladesh.

amended in 1974 and 1990 for the preservation and development of the Sundarbans, the stipulations had not been implemented (Ahamed and Ahamed n.d). The political instability, the weak administrative forest policies, the self-perpetuating grand corruption and the bureaucratic malfeasance, and their collusion with the cartels, impede the existing laws to be implemented.

The infraction of the forest law by the rural people, including the members of the law enforcing agency, is a common practice in Bangladesh. The unrestrained human interventions, illegal logging and administrative indifference cause the extinction of the Sundarbans' wildlife. The in-depth interview data explores that approximately 95 percent of the area inhabitants and forestry officials violate the law to finagle the forest resources in their own benefits. A meager salary that the forestry department pays the forest officials impels them to sell the valuable timbers to the dishonest businessman in the area, as claimed by the informants. According to the informants, officials take an extra amount of money for endorsing the requisite forest entrance letter, an activity that continues throughout the year. Since the police officers and local leaders collude and connive with them, the officials feel emboldened enough to perpetuate the machinations. The share of the extorted money is allocated to police officers, forestry officers, as well as politicians in return.

The Focused Group Discussion (FGD) data, connected with the use of the forest resources, enunciates that forestry officers insist on disallowing women into the forest, since they never provide bribes for the approval of the permission letter. The boats the women use in the forest are so risky as to fall prey to the marauding animals, while the permitted men's boats are secured against a lucrative amount of bribe. As soon as the forest officials on duty locate any non-permitted women's boat in the forest, they capture it for extorting money if women are eager to get it back in one piece. It is claimed that there is no systematic training on how to use the Sundarbans in a sustainable way, as is stipulated either by the forest department, or by the NGOs working in the region. The lack of knowledge on the scientific use of the Sundarbans forest leads the informants to continue with the traditional practices for gleaning forest resources, often causing inadvertent harm to the forest as an inexorable offshoot.

Customary use of the mangrove forest resources:

The Forest Peoples Program (2013) brought into focus the indigenous communities' traditional knowledge, customary practices and use of natural resources, capturing specific types of knowledge, practices of rituals and beliefs, usually unwritten traditional rules and regulation. Accordingly, the study attempted to document Sundarbans forest dependents' traditional practices related to the use of the mangrove resources that serve as their livelihood to a great extent. When it comes to the cutting wood, it is seen that men use sharp axes to separate wood from the big trees inside the forest. The handle of the axes is made of wood that come from the branches of the *Amur tree* (a kind of tree in the Sundarbans). Sometimes, they use *Da* (it is similar to an axe, but smaller in size) not only to cut wood, but also to make it into small pieces, so that it might be used as firewood. Woodcutter men also use the dinghy to shift the wood from the inside of the forest through small canals to the main boat.

A versatile species of palm trees, the *golpata* is typically considered the most valuable non-wood timber in the Sundarbans, according to the informants. It provides excellent thatching materials, that can be used in roofing the adobe, as well as erecting the walls of a cottage (Kabir and Hossain 2008). The study also shows that the *Golpata* usually grows in tidal channels, rivers and low-saline bays and in marshy interior localities of the forest. It grows well in the moderate saline in the freshwater zone of the Sundarbans. The authors also explore that village houses are roofed by the *Golpata* not only in the forest region adjoining the Sundarbans, but also in Barisal Division, one far away from the forest. More importantly, the eatable *Golpata* fruits ripen during July and August, and they are culled to prepare herbal medicine, one that cures the indigestion of the community dwellers. The local practitioners recommend this easily accessible medicine for the community members suffering from constipation and other similar diseases.

The in-depth interviews data makes it clear that *Golpata* collection starts mid-November, and continues up to the end of March. The Forest Department permits 45 days to collect the *Golpata* but only from the demarcated portion of the forest. If the *golpata* collectors flout the order of the authority or fail to observe it, they have to pay 300TK for each day to the forest office. Each letter of permission allows a group 15 men to collect the

golpata. Once the permission is given, some 25-100 boats led by a *Sardar* (the head boatman) form a fleet in order to venture into the forest for 30 to 50 upcoming days.

Before commencing the journey, each *golpata* collector takes a sound meal consisting of boiled rice and milk, with molasses prepared from the date juice. After the meal they go to the mosque to say prayer. It is believed that saying prayer is a means of protection from the attacks of wild animals. The team takes necessary food, kerosene stoves for cooking, medicine, as well as drinkable water with them. At sunrise the boats enter the forest. The equipment the culling usually requires includes *gasidas* (very sharp iron made machete-like weapons), axes and ropes. Leaves fewer than 9 feet are not cut out. Each divided leaf is called a *pata* and 80 *pata* constitutes a *kahon* (local measuring unit). A team collects minimum 30 *kahons* of *golpata* regularly. As soon as all boats are replete with thousands of *kahons* within the allocated time, it departs the forest for the village. The fleets are anchored nearby the local market called the *golpatapotte*. They then leave the *golpata* in the sun to grow desiccated, so that it might be sold at a good price to the local buyers.

Changes in the use of forest resources:

The most important sector of Bangladeshi economy, agriculture, contributes 19.6 percent to the national GDP provides employment for 63 percent of the population. Agriculture in Bangladesh is heavily reliant on the weather. Often at its mercy, the entire harvest can be washed away when cyclones hit the rural villages of the country¹³. Therefore, the villagers in the coast belt living in extreme poverty line have to fight against the environmental calamities, so as to sustain their sources of livelihood. Since the birth of Bangladesh in 1971, it had been experiencing severe catastrophic cyclones during the last three decades. *The Daily Pattrodut*, a popular local Bengali newspaper of the Satkhira district, reveals that *Shora* is a village most susceptible to cyclones in the country. I discuss the narratives of the victims in the following to document, and the changes occurred in the use of the forest resources.

Before the cyclones in 2007 and 2009 offset the balance, the ecosystem of the region had been in equilibrium. The informants recalled that though the temperature at *Shora* during the summertime was swelteringly hot, the steady blow of cool breeze from the riverside and the shadow of the trees made the habitation comfortable for them. The informants also

¹³ Source: <http://www.nationsencyclopedia.com/economies/Asia-and-the-Pacific/Bangladesh-AGRICULTURE.html#ixzz2OxMY1bxm>

recollected that on the way from the field back home, they used to be stopping under the trees to ward off exhausting monotony. During the rainy seasons, the precipitation was also suitable for the crops to thrive. The informants remembered going to the forest to cut the branches of trees to make some requisite agricultural equipment like the spade, harrow, *Kasi* (scythe) etc. With the harvesting time finally arrived, the wives accompanied their husbands to collect rice from the paddy field. Amassing adequate income from the paddy fields, the informants thus led a happy life. It makes it evident that the agricultural mode of production is what the local economy primarily depends on.

“I was once a very lucky farmer because the crops yielded optimum production in the locality. Although it was very difficult to invest requisite amount of money to produce crops twice a year, we had enough precipitation to irrigate the land, which cut the expenditure drastically making all this possible. Since I had little time while working in the paddy field, my wife brought food for me to dine out. While returning home, I used to sit beneath the banyans or date trees to cool off the sweat of my body. The shadow of the trees emanating from the trees served as the natural air-cooler. Overall, before 2006, most of the farmers like me at Shora were very happy.”

A man informant, age: 35

Before 2005 to 2007, the informants were largely dependent on the agrarian production for sustenance. The arable lands were fertile for sowing paddy, wheat and such vegetables as *Puishak*, *Lalshak*, *Datashak*, *Kosu*, *Lau*, *Kumra* and *Borbote* (the local vegetables.). The informants claimed that mangos, papayas, coconuts, palms trees and bananas were planted on the homestead. The yields of these fruits were enough for the community people to mitigate the possible vitamin deficiency.

“In comparison to most other inhabitants of Shora, I had more milking cows in the cowshed; I had my pond more abundant in fish (e.g., salmon, rouhe, mrigel and talapoea); my land replete with paddy and ready-cash in hand; rice from the field and vegetables from the homestead would make up our satisfying everyday meal. In addition, there was the smooth flow of cold air in the village and shadow of trees available what made life happy and wealthy. Moreover, women were engaged to the seasonal jobs (e.g., digging soil, serving as home-assistants, Food for Work program of CARE Bangladesh etc.). On the contrary, a few men and women with no land of their own or other sources of income used to go into the forest.”

A woman informant, age: 33

It is manifest, then, that before the cyclones, the informants used to depend less on the forest for their livelihood since the crops from the field and other paid jobs were viable surrogate. The accessibility to the available resources kept the area dwellers from using the forest in a greater scale for sustenance.

The 2012 Special Report of the Inter-governmental Panel on Climate Change (IPCC) suggests that the risky weather, and climatic events relating to the vulnerable human setting and natural systems, cause natural calamity. This Special Report discovers the social, as well as physical dimensions of vulnerability resulted from the weather and climate-related disasters. In addition, the report claims that the extreme weather and climatic events impact on the increase of threat at population and asset. Similarly, the informants at the study setting had to bear the brunt of the aftermath of the cyclones *Aila* and *Sidr* that forced them to lead an inhumane life.

In the wake of the disasters like the *Sidr* and *Aila*, the cultivable lands were inundated for long periods with extremely saline water, blunting their fertility and precipitating the massive loss of trees and houses. The cyclones also devastated the crops and paddy fields, causing a price-surge of the everyday essentials. With the dearth of their source of income, countless families were compelled to migrate from the district to somewhere else. In some cases, the male members went to some other districts in search of work. While the wives stay at home, they had to eke out a miserable living with the pittance remitted from them.

“A women informant alleged her husband married a girl in the city in order to live a comfortable life there, away from the poverty inflicted by the catastrophes.”

In fact, a similar fate befell several wives at *Shora*, impelling them to be widowed, and thus socially excluded in the way described above. In order to live their life in such a wretched condition, the women in the region had to go to the forest, which is typically a male dominated business. Although they initially began collecting shrimps as part of their forest income, they expanded their circle of working into collecting leaves, small timbers, as well as fruit.

The informants claim that they now experience a sudden surge in temperature resulting from the natural calamities. Due to the dearth of trees now, the region has turned

into almost a desert. The informants also claim that the umbilical cord between nature and the local people is snapped. With this offsetting of balance, the water is turning unsafe for drinking. Since the customary mode of occupations no longer exists in the region, people have to figure out a different source of income, or venture into the forest as a form of surrogate income.

“The sudden attack of pirates and subsequent demand for a ransom inside the Sundarbans is a common phenomenon that puts a frightening challenge before the inhabitants of the locality. Before the disasters hit in 2005, people, especially the women never went to the forest. It is very daunting for a woman to be in the forest among the lurking pirates, but the calamity-induced poverty has left almost no alternatives but to go to the forest.”

A woman informant, age: 39

Summing Up:

In a word, the senior members of Shora acquaint the younger generation with the forest-going myth. An enduring tradition, this myth is handed down from generation to generation. It is evident that men typically go to the forest. Although the *Jele-Baoalie* and other married women also venture into the forest, they constitute a smaller number than the men do. It has also been elaborated that corruption evolved surrounding the forest-going tradition, fomented by some venal official acting in collusion with administration and law-enforcing agencies. About the customary use of the forest, it was found that the natural disasters in the recent times compelled a greater number of people to go to the forest. But, their ventures often end in a fiasco, when the pirates like the venal forest officials try impeding their activities. In the post disaster landscape, the displacement of the men from the study setting to the district town, thus to have a higher labor cost, has generated an increasing divorce rate of women. The deeply entrenched patriarchy in the country marginalizes the divorced women, forcing them to continue living on the periphery of society.

Chapter Six

Women's Behaviors towards the Sundarbans forest

Introduction:

The previous chapter has clearly pointed out the informants' indigenous perceptions of the Sundarbans forest, and described the use of forest resources. However, this chapter takes into account the empirical data connected to women's interactions with the forest, and attempts to document women's behaviors in their use of the forest resources in the forest and at home. Afterwards, it presents how informants' decision-making attitudes are kept in between home and market place, and how they conserve the forest for future generations. In addition, it aims to interpret the findings based on the *Feminist Political Ecology theory*, and integrate relevant archival literature among sections of the chapter to support the arguments for revealing the contextual (study setting) norms and values of the informants.

Primary resource user:

This section will focus on the activities of the forest user women- both at home and in the Sundarbans forest- which makes them the primary users of the mangrove forest resources. The frequent use of firewood, logs, timbers, as well as dried leaves, by women in the forest areas indicates that they develop adequate knowledge about the forest resources (Wan, Coller and Powell 2011). Previous studies (Edmond 2008; Gbadegesin 1996; Godfrey et al. 2010 quoted in Wan, Coller and Powell 2011) on how the women use the forest have neglected the indigenous knowledge they possess and apply in preparing forest resources for the consumers of the market. In the same way, the existing body of literature has overlooked women's interactional perspectives to the mangrove forest resources in the context of Bangladesh.

Upadhyay (2005) argues that the rural women of the South Asian countries possess a considerable knowledge of the characteristics, distribution, and site requirements of indigenous trees, shrubs and herbs. In addition, their conventional understanding of the use of plants for food, fuel, medicine and crafts play a leading role in the conservation of the variety of species according to the usefulness to their community. Further, the forest products they use for familial diets, and during natural calamities (e.g., famine, flood and cyclones) including the critical moment, women's preserved food not only serves the familial needs, but

also are sold to the market for cash income (SD and FAO 2013). The women beyond their domestic chores invest in labor for preserving forest goods and are ready to utilize it in critical circumstances. It illustrates that the women in the forest areas are not only involved in performing multiple tasks for the processing of the forest products used for the familial needs, but as agents of selling those products at the market. Similarly, the women informants at the study setting can be considered primary processors of the collected resources (fruits, firewood).



The observation data explores that three to four women constituting a group collect three to four sacks of green olives at a time from the forest. Each sack filled with olives weighs between 30 to 40 Kilograms. These are carried out by the women informants from the forest back home. As soon as the olives are poured from the sacks, it is equally distributed among the group members. Thereafter, each woman informant uses water for separating the olives from mud, and puts them in the hot sun to dry, in order to make a tasty food.

Women in fruit processing, Photo: Sajal Roy

The forest dependent women claim that without the intervention of husbands, they perform the drying process. After the drying of olives, mustard oil, chili powder and sugar are mingled in it for making a pot of jam, jelly or pickle what serves the household diet. It is also sold in the local market by the informants' husbands. The entire process of making jam, jelly or pickle makes it evident that the informants work more than three hours a day, and six days in a week.



The firewood (e.g., *Gaya*, *Posur*, *Baine*, etc.) gathered from the forest are broken into small pieces by women for easy carry back to their home. A sharp axe is used to break down the wood. In so doing, one has to have adequate muscular power, patient and skills of hitting at a piece of wood, according to informant. *“The fresh raw-wood we bring from the forest is too strong to splinter into tiny pieces. Thus, by axe, we strike in an angular way "Arkope" for making it smaller from the original one.”*

Women in firewood processing, Photo: Sajal Roy

The observation data confirms that the small pieces of firewood are kept in the scorching sunlight for a couple of days at the informants' courtyard. This dried wood is known as *Lakre* to the area habitants. It is either used for cooking food at the household, or retailed to the men wood traders in a cheap price. Generally, during the rainy season—commonly from May to September in the country—the dried wood has a good market value. It happens precisely for the scarcity of the fuel for cooking and the production of good for the industries at the district town. According to the informants, at the time of vending *Lakre* to the representatives of the city timber houses, they set up a wooden balance at the courtyard to measure the amount of wood to be sold. Afterwards, it is transported to the district town by a four wheeler vehicle. It is informed that each 40 kilograms "Akmone" of *Lakre* is sold in between 45- 60 TK¹⁴. The money earned in return is possessed by the informants' husbands; it follows that women's intensive labor involving the processing of wood is devaluated since they are deprived of the reward they supposed to receive from the market.



The *Pona* caught by women from the forest surrounded channels and rivers are kept in the water in an aluminum pot to keep them alive. When the *Bagdha Pownas* are brought to *Shora*, they are handed over to an internal *furi* (a middleman), the local agent of the fishing house located in the city center in exchange for a small amount of money. Prior to hawking the *Pona* to the *furi*, the women use a snail 'Jhinuk' to count the numbers of *Pona* from the pot. In concerting this activity, a special shop, or "Datolsaban," and liquid "Datol" is used for washing hands and fingers so that the *Pona* might be clean and virus free.

Women's participation in the *pona* processing **Photo: Sajal Roy**

The observation data enunciates that 100 pieces of *Bagdha Pona* is peddled at 250 to 300TK. to the local *furi*. The local *furi* goes to the city center "Munshigonj," and sells the same amount of the *Pona* to the fishing depot at. 500 to 800 Tk, which ensures his profit. Interestingly, the *Pona* dealers at the city center are benefitted more than three times by trading it to their foreign buyers, according to the *pona* collector women informants. It is

¹⁴Taka is the Bangladeshi currency.

understandable that from the internal *furi* to *Pona* dealers, the women involved in the preliminary processing of *pona* are indirectly cheated and used as money making instrument of the capitalist. Owing to the provocative attitudes of men towards the *pona* collecting women, and the threat to be humiliated outside the home, they dare to go to the fish depot at the city center. As a result, they solely rely on the payment given by the internal *furi*, who initially cheat the women for the actual payment. In the long run, those *pona* catching women overcoming the obstacles at home and rivers become the recipients of the lowest market value. This scenario of gaining money by the ultra-poor *pona* collecting women demonstrates that the surplus value (additional money) obtained from the *Bagdha Pona* is not directly allocated to the real owners "Pona collectors' women," rather shared by the internal *furi* at *Shora* and depot' fish dealers.

“The pona dealers frequently receive a great deal of foreign currencies by exporting our collected Bagdha. Being women, our presence at the fish market, which is commonly pre-empted by men, is not appreciated. We are to earn, and keep an acceptable social image in the locality. If we fail to maintain it, nobody will come to help us in case of emergency. Therefore, in place of going to the market place, we cannot but agree to sell the collected pona to the internal furi. Though, we are not getting the proper market value, we have nothing to do.”

A *pona* collector woman, age: 45

The above discussion spells out the women's involvement in the processing of firewood and fish at home. The women informants, as primary resource users, apply the indigenous knowledge and skills in preparing the forest resource as the product for the market. Due to the social barriers mentioned above, women's productive labor is devalued and disrespected at home and in public. In addition, the knowledge they make use of for processing the *pona* and *Lakre* is followed by their junior fellow women over the years in the region. The transformation of knowledge on environmental resources from woman to woman has become a trend in the study setting. Although the study attempts to reveal the women's knowledge about the processing of the forest resources, both in the forest and at home, it acknowledges men's in-depth perceptions on the collection and processing of timbers, *goalpata leap*, and honey from the deepest part of the forest, as mentioned in the first empirical chapter. Thus, the informants' behaviors towards the Sundarbans forest resources

expose to a pattern of *gendered knowledge* as directed by Rocheleau, Slayter and Wangari (1996)

Decision making in between market and collectors "women":

The division of labor, in terms of gender, is a central feature of gender inequality (Cohen 2004), explains how men become specialized in paid work within the market, and women tend to be specialized to unpaid work within the home and at market place (Washbrook 2007). At the study setting, the women informants' were either involved in forest connected activities for livelihood, or performing domestic duties (as mentioned earlier) receiving a tiny amount of cash compared to their invested physical labor. Therefore, the division of labor, and the gaining of the lowest amount of cash income either from the household, or outside has been maintaining an intangible trend over the years.

It is obvious from the observation data that the forest timber products and non- forest products are mostly marketed for the cash income. But, when it comes to the question of getting an access to credit, and its allocation to the forest user's women and housewives, it is manifest that woman's shyness and attitudes towards speaking in a lower voice in front of men, downplaying their claims of getting cash income at the locality. This weakness of women's attitudes and the expectation of the rewards of their invested labor are being indirectly abused by men over the years. Due to the low level of education, the lack of knowledge about the proper value judgment of life and the fragile socio-economic status of area habitants, women are always subjected to support their husband's ideological position, which turns them silent in domestic affairs. The following standpoints of Shora's women expose to Mohanty's formulation of 'discursive site for struggle.'

While attempting to visit either a relative's house, or consulting a doctor at the city center or at a remote distance, women, as recommended by husbands, seldom venture out of "purdah." The informants report that though they are not inclined to put on 'purdah,' which is problematic to breathe pure oxygen, but they only put on for satisfying their husbands' willingness, and respecting the religious ideology. The individual's sense of self preference of clothing is imposed to satisfy other's (husbands) norms and values. In this situation, the women informants negotiate to the existing local Islamic religious norms and values for claiming their actual financial gain from their men counterparts (e.g., internal furi, husbands, agent of the fish dealers etc.). Due to this negotiated concern, men's powerful social position at Shora is deepened, which undermines women's sense of self religious identity. Apparently,

it strengthens the masculine features of men which tend to undermine the women informants' social position as mother, care-giver or sister. This labeling of individual woman either by husband, or by other masculine representative of society is performed through regular practices (Butler 1990; McDowell 1995 cited in Radel 2012).

The in-depth interviews data connected to homemakers' domestic duties reveal that they are repeatedly treated as domestic servants by their husbands and in-laws. The men as the head "Kortabakte" of the household occupy the breadwinner position, leading them to be the key decision maker, and main role player for each and every phenomenon (e.g., behavioral patterns of wives, when to be pregnant, reproductive choices and options, claiming money earned from the forest resources) of their wives' life, according to the informants. It has turned a deeply rooted social structure in the study region.

“Before my marriage, what duties and responsibilities at home and outside to be done were identified by my father. I had no freedom of expression of my own life. I had been guided to maintain the religious obligations imposed by the ‘Huzur,’ the head of local mosque and mentor of every family. I was frequently advised to follow the religious guidelines; nonetheless, my father would have been called at the mosque for my misdeed. After the marriage, I obliged to follow the rules to go to heaven after death; a wife is to stay under the regulation imposed by husband directed by husband’s house.”

A woman informant, age: 45

This quotation depicts that the women are said to be bound, and forced to accept the religious opinions guided by the male representative of the local society of Shora. The forest user informants, or women at home, never challenge this ideological dominance attributed by father or husband; rather they negotiate so as to sustain their social image. It is linked to the *Hegemonic Masculinity* perspective guided by Connell, (2009) emphasizing the power relationships between men and women as well as men and men, where the dominance of some men over women and other men is seen as an outcome of institutionalized social structures, as reflected from the given narrative of the informant.

The decision making of women in the household connected issues in the rural context of Bangladesh largely depends on the extent of the continual financial contribution to the family. However, it has appeared from the study context that the women are not welcomed to

their nearby or remote market place, where they might have sold the product they process for earning direct cash income. It constrains the gaining of the financial output from the market. They live under the social circumstances that hardly allow them to be visible at the market place. As a result, their voices are rarely heard in the familial decision making issues.

The women's ideological position in performing household activities, and how to treat male family members at Shora are generally instructed by the husband or the father-in-law. Though this conservative outlook of patriarchy manifests the women's subjugation to home, the resources they collect for the purposeful use at the household, and environmental concerns they have, represent women's intimate connection to the forest ecology, and self-environmental care for their children. This depiction of feminine forest-related activities to subsistence economy at Shora harmonizes an integrated system to gratify the basic needs of the people (Dankelman and Davision 1988; Shiva 1989 was quoted in Nhanenge 2011).

Women as 'natural conservators' of the Sundarbans:

The discussion of this section captures the informants' activities for the conservation of Sundarbans' forest. Maiden (2011) suggests that the women adopt environmentally friendly practices, such as terracing and taungya, the cultivation of fodder trees and lead campaigns against the tree grazing. The author's study, in the context of East Africa and South America, discloses that women are conventionally the main- and the most regular-gleaners of the forest product. In addition, the study finds that women in the community forested areas are the key role players in restoring the degraded lands.

The Focused Group Discussion (FGD) data presents that a couple of women organize the courtyard (Uthan-Boithak) meeting twice a month in which they discuss the preservation process of the forest. The *Uthan-Boithak* consists of both the forest users women and non-forest goers women in which the discussants talk about the safety of the deer, the supply of oxygen by the trees, the necessity of tigers for the Sundarbans' wildlife, the corruption adopted by the forest officials, the significance of the forest for children, and the future generation. It is claimed that the women at Shora are alarmed by the consequences of the natural calamity and the deterioration of the forest.

“It is rapturous to see the movement of a group of deer that adds the beauty of the forest. There is no official statistics about the actual numbers of deer in the

Sundarbans. The men ranging into the deepest portion of the forest are business-minded. Though the Forest Department prohibits the slaughter of deer, it is hunted by those business-minded men for vending the deer's meat and skin at a high price to the local elite and the city dwellers. We, the women, always motivate our husbands not to kill the deer as it is deeply connected to the forest ecology. The presence of deer helps maintaining the balance between biodiversity loss and sustainability of the wildlife.''

A woman participant at the FGD, age: 40

There is no official record that the women have ever killed a deer, or used the forest resources for highly commercial purpose. They discourage the husbands from the killing of deer. It proves that the informants are environmentally aware and realize the necessity of the resource at the Sundarbans for the local community.

The Focused Group Discussion data affirms that the royal Bengal tigers represent a distinctive character of the Sundarbans. The royal Bengal tigers which are only living in the Sundarbans are at risk. Owing to the unplanned deforestation by the forest area inhabitants, and the gradual deterioration of the habitat of the wild animals in the Sundarbans, the number of tigers is decreasing day by day, according to the informants. The women informants assert that some dishonest- but bold- men at *Shora* kill tigers and traffic their young abroad in the hope of earning a big amount of money. The royal Bengal tiger connected rules of law which are guiding the conservation of wildlife of the forest, are frequently violated by the area inhabitants, and the employers of the Forest Department. Furthermore, the informants add that during summer in each year tiger/tigers cross the river for entering to the village. The area inhabitants get frightened as soon as they come to realize the fact.

“With Goran sticks, gun and the strong nets, the men's groups at Shora are extremely courageous. They keep themselves always prepared to attack the tiger entering the village. During summer nights, man from each household patrols the village so that tigers might not admit into the village.'"

The I-PAC project, initiated by the US-AID in 2004, deals with the integration of the indigenous people for tiger conservation in the coast belt of Bangladesh. It aims to train women for the use local knowledge and expertise to protect the Sundarbans' forest resources. This project's animators make a door-to-door visit in order to have an appointment with a

woman from the each household at Shora. The project uses the participatory approach for encouraging women in the sustainable maintenance of the Sundarbans forest. The trained women like to encourage their husbands to patrol the village at night, and suggest they refrain from attacking the tigers.

“We advise the patrolling team members to create intensive sound by their vocal so that listening to the sound tigers might get forced to go back to the jungle.”

A woman informant, age 49

The continuous patrolling system has been working effectively in the region; as a result, now tigers rarely dare to cross the river, according to the informants. This approach demonstrates that the women are indirectly involved in, and contribute to the conservation of the most important resource, the Royal Bengal Tigers, of the Sundarbans that reflects their environmental responsibilities (Rocheleau, Slayter and Wangari 1996).

The discussed activities of *Uthan-Boithak* illustrate efforts of women's groups for the environmental concern of the Sundarbans and their self-motivation to work in a team. Furthermore, the *I-PAC* project that inspires women in motivating their husband to patrol the villages at night depicts women's leadership for the tigers' safety and wildlife preservation from the grassroots level.

The observation data explores that forest goer- women pick up the seeds of mangroves and plant them in the wetland for the germination, so that it might grow large, like the big trees available at the Sundarbans. This plantation process is performed with great care, and the interaction between women and mangrove plants is compared to women's motivation to environmental care. The informants believe that the probable growth of the planted seeds will reduce the deforestation to a smaller scale, and contribute to a greener environment for the growing babies of the forested villages. This activity, and the concern of women informants in the forest, connects Mies and Shiva's (1993, p.14) argument “women have a deep and particular understanding of future generations and life on earth through their intimate connection between nature and experience.”

“We are less energetic than a man forest user. To gather timbers and trees, a woman is to be very robust in boating and challenge taking against the pirates and worse climate. We are very scared for the frequent movement of the pirates because they might kidnap us and ask for ransom to our family. Therefore, we always get an access

to the nearby forest lands where mangrove leaves, fruits and fishes are available. Big trees and wild animals are the creatures of almighty God, which maintains the balance between the consequences of deforestation and ecological protection. Considering our role as mother and care giver to the family, we do believe that planting mangrove seedlings enhance the balancing process, and it will keep habitat and environment safe from the probable natural calamity. ''

A woman informant, age: 35

The talk of this informant shows challenges (the long distance between the residence and forest resources, the physical weakness, threat to be physically assaulted by the pirates') that hinder women's access to the deepest part of the forest. It depicts that the women informants struggle over the forest resources located at the distant part of the Sundarbans, even though it is claimed that due to long term poverty caused by *Aila*, a great deal of men in the study region have been involved in robbery. It produces a limited gender space for women informants in quest of their livelihood support. This perspective of women informants' challenges reflect the Sultana's (2011) sketch of the feminist political ecology framework, which describes the messiness of everyday politics and struggle over the environmental resources of women.

Summing Up:

It is evident from the findings that the women interact only with the forest resources easily accessible to them from the nearby forested area. Due to the scariness caused by the social forces, and the threat of stigmatization, the women informants rarely dare to get an access to the deepest part of the forest. The gleaned resources are used in the familial diet and sold in market. On the contrary, the market value forest users' women are supposed to obtain from the internal *furi* or the fish dealer is not given to them. Nevertheless, the women informants, with their local knowledge, are closely engaged in conserving the forest resources. Not surprisingly, a very few of the women informants interact with the forest resources collected by men from the deepest part of the forest. It is evident that women's socio-economic identity at *Shora* is controlled by the patriarchal ideology, but compared to men informants; women are more motivated and environmentally aware for the conservation of wildlife and wilderness of the mangrove forest.

Chapter Seven

Human Security, Sundarbans and Survival at Shora

Introduction:

This chapter highlights informants' in-depth perception on human security, their realization of the importance of environmental security at Shora, and women's special care of the Sundarbans forest. In discussing the core elements of human security, I describe the benefits, as well as threats, of human security in the context of Shora; thereafter, the discussion includes the informants' experience achieved from the context of *Pre-Sidr-n-Aila* and *Post-Sidr and Aila* situation. The long term severe impact of Aila and Sidr has caused vulnerability in the ecosystem of the study setting and the forest. Due to environmental threats and uncertainty in the region, people's need for environmental security has been documented.

Human Security:

The Focused Group Discussion data, connected to human security in relation to the Sundarbans forest, reveals that informants take the experiences of *Sidr* and *Aila* into account, and prefer to describe the human security issues of the study setting. Informant's narratives demonstrate that, due to cyclones, the ecological setting of the region and the forest has become vulnerable. This section thoroughly discusses participants' perceptions about the ecological setting of Shora, components of human security and the deterioration of the forest caused by cyclones.

Human Security emerged as a part of holistic paradigm of human development cultivated at UNDP, and contributed by Mahbubul Haq and Amartya Sen (Jolly and Ray 2006).

“The human security means safety for people from both violent and non-violent threats. It is a condition or state of being characterized by freedom from pervasive threats to people's rights, their safety, or even their lives” (Jolly and Ray 2006, p.4).

The authors have identified seven core elements of human security- economic security, food security, health security, environmental security, personal security, community security and political security which approximately reflect the basic needs of human life (Jolly and Ray 2006). In line with these seven core elements of human security, the Sundarbans forest contributes a lot to human security in the study area, which has been ascertained by the data found from the empirical study. The contribution of the mangrove forest, the Sundarbans, extends to informants' economic support, food, health, environment, individual, community and political boundaries. The two vital roles in prevailing human security are the safety from the threats, and supporting the lives of the area habitants with the core seven elements (as listed earlier). Firstly, the forest saves the people from the massive loss or redeems threats of natural disasters. Secondly, it supports livelihoods, with security of economy, food, health, environment as well as the individual and collective socio-political life.

The most significant contribution of the Sundarbans for the human security is supported by the forest resources. The Sundarbans acts as their prime source of livelihood and income. The area habitants rely on the forest and its water resources for their everyday life, food, shelter etc. The professional activities like fishing, collecting wood, collecting honey, collecting *Pona* have all evolved in the course of hundreds of years among the local people. It supplies the raw materials for many other growing fields of employment such as the shrimp culture projects in nearby districts. Nevertheless, Sundarbans has a pivotal role to protect Shora's natural environment in absorbing carbon dioxide, which ensures a decline of temperature there. The forest protects the surrounding locality from the massive loss of natural disasters like cyclones, storms etc. As the area adjoins adjacent the coastal region, it is susceptible to frequent threats from disasters emerging out of the Bay of Bengal. The mangrove forest minimizes these threats and losses. Although in Aila and Sidr they underwent immeasurable losses, much of Sidr and Aila's impact was absorbed by the forest itself.

An informant in the FGD claims that

“During the cyclones the people working around the forest took shelter in the forest which acted like a cyclone center.”

The forest not only protects the locality from the direct loss of disasters, but also in post disaster situations, it supports the rehabilitation (providing housing elements- Golpata, Bamboo, Shan, Wood, Bet and lastly the source of income.

Although informants described the benefits of human security as mentioned, they also identified a few negative aspects too. These aspects include the following—

- a) Threats to life
- b) Threats to property and
- c) Limiting people to risky livelihoods or professions

First of all, *threats to life* rely on the relationship between the forest going people and wildlife in the Sundarbans. There are numbers of ferocious animals in both the forest and the river like tigers, snakes, and crocodiles threatening for lives of the forest goers. The proof is very clear to investigate that the majority of the forest going women lost their husbands to such threats. In recent times, after the disastrous Sidr and Aila, the ecology of the forest has been broken down. It is apparent from the observation that the forested portion surrounded by the river bank mostly has been without trees and that no animals are found there.

Secondly, the *threats to property* denote the losses faced by the locality from the ferocious animals of the forest and from the disasters. After a devastating disaster of Aila, each and every inhabitant in the study region faced the shortage of food. Moreover, tigers, along with other animals, cannot satisfy their normal hunger for food within the forest line, and they often come outside. Many of the incidents showed that tigers, jackals and other ferocious animals appeared in the nearby villages in search of food. Here these threats are not only limited to their lives, but also to the resources like their cattle. The area inhabitants describe those incidents as the threats to their assets.

Thirdly, informants strongly believe that limiting people with risky livelihoods or professions is likely a threatening concern for their survival at Shora. It includes infrastructural facilities, social norms and values what make them bound to be involved in the traditional profession. As the geography and infrastructure of the locality is not in favor of developing businesses, people have to rely on the forests and its surroundings for their sole scope of livelihood earning.

The Focused Group Interview data reveals an intimate bond between the area habitants and the forest. While asking the informants about the bond between their lives and forest, they replied that “*The Sundarbans are our mother, our lives, our future and our love.*”

Another one added, “*suppose I am the head of my family, so the Sundarbans is in this zone.*”

Westing (1989) categorizes two types of resources for understanding the affiliation between the environmental component and comprehensive security, namely *Non-extractive Resources*, which include a) the land and soil, b) water, c) the atmosphere etc.; and *Extractive Resources*, which include a) Non-renewable resources, b) Renewable resources. In the same way, participants in the Focused Group Interview identified three categories of the environmental resources-i) forest and its wildlife, ii) rivers and water animals, iii) people or dependents related to the process of human security. In the first category, the forest and its inhabitants include mainly the trees, birds and animals like deer, tigers, snakes and monkeys. The second category includes rivers and canals, fish, snails, crocodiles and water snakes. The third category contains the dependents on the forest and river resources, and the people living around it.

According to an informant's view, “*Shora's ecological setting has turned into an unstable one since it historically faced cyclones in the year of 1975, 1988, 1991, 2005 and 2009, resulting in the diminishing of the inhabitations including the livelihood of majority of the people.*”

“*Without this forest, we couldn't live here; it's the forest that cares much for our survival in every regard.*” **An informant, age: 59**

In addition, the informants strongly believe that the forest has a great contribution to the environment and seasonal weather. It protects them from both the extreme cold in winter as well as hot weather, by absorbing the increasing amount of heat in summer.

“*The forest is our natural oxygen factory. During wintry months we tolerate bitter cold as we cannot afford to purchase expensive warm cloths, but*

generally we use ripper and blanket to warm ourselves. It is the forest which reduces the level of cold and keeps the area bit warmer. In summer, on the other hand, we breathe pure oxygen and keep us fresh and beautiful.”

A man participant in the FGD, Age: 55

Another says-

“The mangrove tree of the Sundarbans keeps the environment fresh and alive, and it makes our body beautiful.”

Both men and women choose the Sundarbans as their source of income and living, and thus they come into an interaction with the forest, building kinship bonds among them. An informant says-

“Both men and women go to the Sundarbans for their living. Especially the women, who have lost their husbands in the forest, have no other choices but going to the forest or fishing. That’s why the friendship the forest and men and the nearby inhabitants deepens every day.”

While asking questions to document informants views on the volatile local ecological setting, they distinguish between two situations- *Pre-Sidr-n-Aila* and *Post-Sidr-n-Aila* situations. All the participants described the two cyclones Aila and Sidr in detail: Aila cruelly affected both coastal villages and the forest, while Sidr caused damage to a huge amount of forest trees. After Aila, the flood-water lasted for about 3 years at Shora, hampering the growth of corn. In addition, it displaced the area inhabitants, who had no other choice but to live on the nearby embankment and many of them relocated to the district town, hoping to have better income opportunities as well as residential support.

An informant tried to give a picture of the day Aila occurred:

“In the day of Aila, it started to rain followed by a violent storm. The velocity of wind increased over time and destroyed the dam. As a result, water entered the villages, farms and fields which washed away the people, houses and belongings. That was a nightmare, and I don’t want to remember it again.”

Describing the aftermath of Aila, another informant says-

“Aila caused a great loss to our lives; as a result, we are afraid to get back to our natural life and we will have to survive with others’ help.”

While asked about their views on restoring the Sundarbans’s ecology, one of the informants emphasized the natural process of restoration would have happened, even without any deliberate human intervention.

“Even after the Sundarbans were affected by Aila and Sidr, the trees would restore the vigor of life all by themselves as they can grow in salinity. But here at Shora the trees can’t survive in salinity, so the area looks like a desert with no crops and trees left.”

Comparing the Shora’s ecological setting in two situations; an informant was vocal to describe her experience -

“After Sidr and Aila the environment and the weather and/or climate has changed significantly. During monsoon there is less rain, and in summer the scorching sun makes our life difficult. The region has been facing an increase in waterborne diseases like diarrhea, lesion and the like. If there were enough trees like before, I think we would not have to suffer so much as we do now.”

Comparing with the Pre-Sidr-n-Aila status, she continues-

“In the years before the onslaught of the Aila and Sidr, there had been trees everywhere in the locality. But now most of them vanished. It was a well-ventilated atmosphere and a sound environment, but now it has been devastated with the environment being contaminated. The weather has turned hot, and there is a spate of skin diseases.”

According to the informants, in both cases the forest was devastated with great losses to the trees, birds, and animals, impacting the whole ecology. During Sidr, the forest was more affected than the locality, caused trees to be leafless; fishes died in the river and floated away, and a huge number of deer, tigers and other animals were found dead everywhere in the forest.

All of the informants opined that in the Pre-Sidr-n-Aila times, each and every property in the locality was better off than the situation at present. Over all, with the ensuing devastation of the two cyclones, the area dwellers had lost their households, cattle, and trees like coconuts, mangos, *shofeda*, dates, *kul*, jam, *litchis*, jackfruits, and most importantly the happiness in everyday life. Prior to disasters, they used to cultivate vegetables like *puishak*, *dengashak*, *demushak*, *rangashak*, egg plants, potatoes, *folkopi*, *patakopi*, *raddises*, *ladies' fingers*, *kachurmukhi* etc, in the fields, but now almost nothings grows. In addition, they produced paddy, namely *potinai*, *goti*, *goran*, *ghunshi*, *chaprali* and *hira* in their lands, but at present due to the loss of the fertility the fields, no crops are produced.

While in the post-Sidr-n-Aila landscape, the whole region seems to be a devastated wasteland: the people have lost households and cattle along with the smiles on faces. It could be easily identified that there were very few trees left in the locality, fields with no vegetables as well as dry paddies. There is the salinity everywhere, which made their life the worse it had been in decades. It affected the whole community, regardless of their economic conditions. One of the informants shared her view that in any other disasters it was easy to cope or adapt to the new situation because there were crops in the fields. The poor would get job to work in the fields of wealthy people. But now the fields are of no use, and the poor do not have any scope to work anywhere.

Informants call for environmental security:

According to the Millennium Project report on 'State of the Future' written in 2009, environmental security is the relative public safety from environmental dangers caused by natural or human processes due to ignorance, accident, mismanagement or design and originating within or across national borders (Jerom, Theodore and Elizabeth 2009). The Millennium Project defines environmental security as environmental viability for life support. It elaborates the features with three sub-elements: i) preventing or repairing damage to the

environment, ii) protecting the environment due to its inherent moral value and iii) preventing or responding to environmentally caused conflicts.

However, the focus of the study has been on the first two issues, likely preventing or repairing damage and protecting environment due to its inherent moral values. The necessity of environmental security has been a crucial issue for present condition of the study region. Firstly, the frequent disasters like Sidr and Aila devastated the lives of the depending people in the nearby localities. As the forest is their immediate source of income and works like their support for fighting against all odds, there has been an increase in their demands after any disaster. As a result, there is a proliferation of demands, and an increased rate of resource exploitation soon after the disaster. Secondly, the disasters like Sidr and Aila have made the forest too vulnerable for its survival. The actual situation demands care for the forest itself, rather than only the support of others. The lost trees, animals, birds and all other components would take time to restore naturally. The situation has increased the level of vulnerability of the forest survivals. Now the necessity of ensuring environmental security has been obvious in every measure.

The animals of the forest are insecure, due to the greed of the forest going people. Sometimes people hunt exotic animals, and collect resources in a very aggressive manner without any qualms for the future. The unstable environment in both the locality and the forest, increased demand for supports through resources and care, and high rate of resource extraction. However, the prediction of climatologists analyzing the facts, and the salinity intrusion in the local land make the environmental security very urgent, with the need to take immediate action plans for the betterment of the existing ecological setting in the concerned areas.

Before adjourning the Focused Group Discussion, the informants became emotional, and optimistically reported that they had intended to lead an environmental hazardless and risk free life at Shora. It will ensure the livelihood support throughout the year, alternative income opportunities for the reduction of the forest going habit in the region, and the actual payment for their collected resources from the forest. The informants emphasized that the corrupt political leaders of Shora only visit them whenever they require votes, in order to occupy the political power. It was also added that the local political leaders attempt to intervene when media come to the area to record their message, so that it might be

disseminated to the governmental agencies. As such, the voice of the poor informants' lives is systemically ignored.

“At present, nobody listens to our voice, and almost none cares to take steps for our safety. We voted the leader hoping an overall betterment of our lives including an infrastructural change in the village so that each habitant can be benefitted from communication facilities. But the leader has broken the commitment and now rarely comes to pay any heed to the problems of our risky life. We need not brick built houses but fertile land and fertilizer for food security, proper medical support during disease, availability of the disaster connected information and protection of lives from the cyclones and natural calamities.”

A woman informant, age: 35

Women's special care to Sundarbans forest:

UNEP, in 'Women and the Environment' quoted a peasant woman from Gaibandha region of Bangladesh as-

“Life is a whole, it is a circle. That which destroys the circle should be stopped. That which maintains the circle should be strengthened and nurtured (UNEP 2004).”

Women's life goes with the circle as the environment itself. The care-giving nature of women in the ecology should be kept alive and nurtured, for the healthy maintenance of the circle of the life and the environment. Women and Environment are interrelated, based on their roles that they play and very similar care-giving nature they share (Glenton 2010). The study conducted in 2010 in Philippines, and in 2012 by Shambel in the context of Ethiopia reveals that the forest going women develop their own informal approaches to solve natural resource extraction impediments. In the studied communities, it was found that they developed an informal institutional framework with the inputs of their traditional knowledge to the sustainable use of natural resources. The women in Sorsogon, Philippines believed protecting themselves, their families and the next generations is crucial to protect the environment around them (Guiriba 2010). However, the revealed outcome of this study in Bangladesh goes with the similar track as revealed in Philippines and Ethiopia on this same

context. Forest going women were found to be more careful in their actions while collecting resources from the forest. Despite their gender role in the society, they play very pivotal roles to facilitate sustainability of resource uses. In many forms, they use their traditional knowledge to develop the institutional framework and management system over the exploiting zones. Besides their individual contributions, it is noteworthy to mention that their collective actions also unveil their extreme care for the surroundings.

Though the forest going women are treated according to the Muslim religious misinterpretations by the religious leader (e.g., Huzur) in the region, the reality of their lives for survival forced them to overcome these social barriers to go to the forest. Moreover, the men obtain much of the benefits attained from the forest resources, with a patriarchal setting of gender division of labor. However, through an exploitative and under-representative way, the women are involved in their livelihood activities. However, in real cases they have been proven to show much care of the sources from where they extract resources. Informants opined that women have a natural instinct to take care of their surroundings, and in general normally give special care in their activities while extracting resources from the river and forest. She says-

“Sometimes when a tree is about to fall into the river, I just put it in place that it might survive.”

Both men and women have their care giving notions to behave with environment, but it varies in different situations. There is a normal tendency among the people regardless of gender to leave the other kind of live fishes in the river after collecting the necessary Pona fishes by ‘ochol,’ so that the fishes can survive further, however women care more than the men in this particular case. They also take care in cutting down trees from the forest and search for only the dead trees for their fuel woods. Men care more than women in cutting trees; and men follow the certain methodology when cutting the branches of a tree, it allows the trees to grow further, to reproduce its branches in future. Comprising the responses and data from the field it is apparent that women take better care of local eco-system. They go to the forest in groups and exploit resources in a collective manner, they sometimes initiate the planting of trees in the areas where they feel needed. Due to their very natural instincts or any other unknown facts, women’s role in exploiting resources is a kind of special care, which ensures a sustainable approach.

Summing Up:

The findings from the gathered data mostly unfold the sources of economic security, as well as people's perceptions of environmental security. With the both positive and negative aspects of human security, Westing's categorization of environmental resources in relation to comprehensive environmental security demonstrates an intimate bond between the area inhabitants and forest. It is evident that informants claim that the impact of Aila and Sidr have hampered the human-environment relation in the locality. Therefore, the people realize the necessity of the forest for the stability of environmental security of the study setting. It has also appeared that though socio-cultural and religious practice in the study region causes women to downplay their identity, they take special care of the forest, as they would care for their son or daughter.

Chapter Eight:

Concluding Remarks

This study endeavored to document women's and men's activities in the Sundarbans forest, and women's interaction with the forest resources. In order to explore the main purpose, the study addressed three questions: i) What are women's and men's perceptions about the Sundarbans, its resources and to what extent have changes in the use of forest resources happened due to Sidr and Aila? ii) How do women behave towards the forest resources at Shora? iii) What are women's and men's notions about environmental security as it relates to Sundarbans and their region?

The study has depicted the evolution of forest going myths, and the pattern of using forest resources, and how they are transformed from the senior to junior area habitants at Shora. Although the officials of the forest law enforcing agencies are supposed to protect the forest from commercial use, the local forest rangers, along with the dishonest men at Shora, adopt unfair means for the unlawful use of the Sundarbans forest. The study shows men, in comparison to women, regularly go to the forest at least twice a day when the flow of high water and low water fill the forest canals. While traditional boundaries, locally practiced social norms, as well as negative labeling once confined married women to be domesticated while at present (post cyclone setting) due to the changes of traditional occupations caused by Aila, they come outside of the household in joining the small scale income generation activities at Shora. Compared to the married women, the divorcee cut off from the mainstream local community, brave the social odds to have access to the nearest part of the forest.

The study further reveals that the forest dependent women apply indigenous skills to catch a wider category of fishes, and use unsharpened instruments to root out the dead branches of mangrove trees, as well as forested non-timber products to be used as fuel in the household diet, or sold in market for earning a satisfactory amount of cash income. Even though married women spend a significant amount of time in processing the gleaned forest resources brought by their husband, their involvement goes unheard due to weaker claims for returns of the invested physical labor and time at the household domain, and also due to the breadwinner position of men strengthened by the conservative Muslim outlook of the Shora

region. The resultant conditions not only deprive them of a share of the earned money but also push them to the periphery of the society. This oppressive social norm of disrespect and deprivation prevents the married and divorced women from assuming socio-political identity. In this regard, they negotiate with the hierarchal power both at home and outside, rather than confronting it with their claims.

Beyond these, women directly conserve the forest, and inspire their husbands to patrol the village against the attack of wild animals. The performing of this environmental responsibility demonstrates their sense of care towards the wild inhabitants. In addition, the study has shown that the aftermath of the cyclones deteriorated the Sundarbans' ecology, turning the study setting almost into a desert. The ecosystem of the region is thus in a transitional phase for natural recovery. Hence, the women and men at Shora are in need of an alternative source of livelihood outside the forest area, so that the Sundarbans ecology can maintain a balance between wildlife and climatic threats.

According to Harding's Standpoint theory, as described in the third chapter, women informants of the study setting occupy two kinds of standpoints- a) risky situations during their stay in the forest, b) women's deprivation from the home by husbands and at market by the fish dealers, and their vulnerability due to social forces as well as cyclones. The risky situations are primarily engendered by the pirates and wild animals. Weathering this and other odds, they have an access to the forest. It is assumed there is a social stratification among women and men in terms of owing cash income earned from the forest. It has been discussed why and how women forest users' voices are kept concealed. Thus, the study clearly reflects marginalized women's knowledge production and reflection from the grassroots level (e.g., distant locations). Interestingly, women's striving, care-giving and conserving attitudes towards the forest critically reflect the Feminist Political Ecology Theory. In this case, the study points out men's toiling task of honey gleaning, as well as Golpata cutting, that requires more than a month to stay inside of the Sundarbans. Thus, the men's struggle only for the quest of livelihood for the family members, as well as likely maintenance expenditures is earned from the remote portion of forest.

This study also shows an ambiguity, as it fails to figure out the gender relations among the members of the forest dependents, considering women's and men's invested times in collecting forest resources from the Sundarbans, its processing mechanism, as well as how historically local politics of distribution of the gained financial benefits deprive women of

their payment. Moreover, it could have explored area inhabitants' gendered ideology in terms of struggle for the use of Sundarbans forest resources at the household and village levels as directed by Radel (2012).

Time and monetary constraints prevented me to reveal informants' struggle for safe life related to the Sundarbans, and the daily messy politics hindering women to claim the rewards of their invested labor in doing work at the household and outside. But, the time spent at Shora was perhaps the most influential period of my master's career. I learned so much about the Sundarbans, the diverse use of the forest resources, women's interactions towards the forest, and peoples' construct about the role of the forest for the environmental security. I wish to go back again to Shora for further research of a more advanced level (e.g., PhD) of studies in the future.

References:

Agarwal, B 1997, “‘Bargaining’ and Gender Relations: Within and Beyond the Household,’ *Feminist Economics*, Vol.3, No. 1, pp.1-51.

Agrawal, A. and Chhatre, A 2006, ‘Explaining success on the commons: Community forest governance in the Indian Himalaya,’ *World Development*, Vol. 3, No.1, pp. 149–166.

Ahamed, U.M and Ahamed, F n.d., *Control of Illegal Activities in the Sundarbans Forest of Bangladesh: Overview of the Regulatory Aspects*, Seminar Paper, Department of URP, Khulna University, Khulna, Bangladesh.

Alam, M. J, M. G. Rakkibu and M., M., Rahman 2012, ‘People’s attitudes towards Social Forestry: A Case Study in Rajshai,’ *Environmental & Natural Resources*, Vol.5, No. 1, pp. 217-222.

Bangladesh Forest Department n.d., *Ministry of Environment and Forest Government of Bangladesh*, viewed 7 April 2013, <<http://www.bforest.gov.bd/index.php/forest-category/mangrove-forests>>.

Basar, A., M 2009, ‘Climate Change, Loss of Livelihood and Absence of Sustainable Livelihood: A Case Study of Shymnagar, Bangladesh,’ Master’s Thesis, Asian Studies, Lund University, Sweden.

Barnnet, J 2011, *The Meaning of Environmental Security: Ecological Politics and Policy in the New Security Era*, Zed Book Limited, London, UK.

BBS 2011, ‘Community Report-Satkhira Zila,’ *Bangladesh Bureau of Statistics*, Dhaka, Bangladesh, viewed 11 May 2013, <<http://www.bbs.gov.bd/PageWebMenuContent.aspx?MenuKey=462>>.

Bhowmik, A and Carbal, P 2011, ‘Damage and post-cyclone regeneration assessment of the Sundarbans botanic biodiversity caused by the Cyclone Sidr,’ *1st World Sustainability Forum*, pp. 1-16.

Bosold, A., L 2012, 'Challenging The "Man" In Mangroves: The Missing Role Of Women In Mangrove Conservation,' *Student Publications*, Paper 14, viewed 19 January 2013, <http://cupola.gettysburg.edu/student_scholarship/14>.

Brune, J. and Toope, J., S 1997, 'Environmental Security and Freshwater Resources: Ecosystem Regime Building,' *The American Journal of International Law*, Vol. 91, No. 1, pp. 26-59.

Center for International Forest Research 2012, 'Forests, trees and agro-forests: A strategy for gender-responsive research and action,' Bogor Barat 16115, Indonesia.

Cohen, N., P 2004, 'THE GENDER DIVISION OF LABOR "Keeping House" and Occupational Segregation in the United States,' *Gender and Society*, Vol.18, No.2, pp.239-252.

Connell, R 2009, *Gender: In World Perspective*, Cambridge, Polity Press, 2nd Ed.

Crewe, E., and Harrison, E 1998, *Whose development? An ethnography of aid*, Zed Books, UK.

Dankelman, I., Alam, K., Ahmed, W., B., Gueye, D., Y., Fatema, N., and Kutin, M., R 2008, *Gender, Climate Change and Human Security : Lessons from Bangladesh, Ghana and Senegal*, The Women's Environment and Development Organization (WEDO) with ABANTU for Development in Ghana, Action Aid Bangladesh and ENDA in Senegal.

Detraz, N 2009, 'Environmental Security and Gender: Necessary Shifts in an Evolving Debate,' *Security Studies*, Vol.18, No. 2, pp.345-369.

Dhali, H., H 2009, 'SUSTAINABLE DEVELOPMENT, STATE POLICY, AND GENDER: Examining the Effect of the Forest Policy on Gender Relations of Indigenous People in CHT in Bangladesh,' International Institute of Social Studies (I.S.S), Netherlands, pp. 1-58.

Dixon, H., F., T 1999, 'Environmental Scarcity' in Dixon, in H., F., T. *Environment, Scarcity and Violence*, Princeton University Press, USA.

Enarson, E 1998, 'Through Women's Eyes: A Gendered Research Agenda for Disaster Social Science,' *Disasters*, Vol. 22, No. 2, pp. 157-173.

Ferrier, S 2002, 'Mapping spatial pattern in biodiversity for regional conservation planning: where to from here?,' *Systematic Biology*, Vol.51, No. 2, pp. 331–363.

Forest Peoples Programme 2013, *Supporting forest peoples' right*, Indonesia, viewed 28 March 2012, <<http://www.forestpeoples.org/topics/environmental-governance/customary-sustainable-use>>.

Freeman, A., M 2004, 'ENVIRONMENTAL SECURITY IN THE GLOBAL CAPITALIST SYSTEM: A WORLD-SYSTEMS APPROACH AND STUDY OF PANAMA,' MA Thesis, Department of Political Science in the College of Sciences , University of Central Florida, Orlando, Florida, U.S.

Feminist and Gender Theories 2013, *Dorothy E. Smith (1926–): A Biographical Sketch*, Sage Publications, viewed 10 March 2013, <www.sagepub.com/upm-data/38628_7.pdf>.

Fuller, D 1999, 'Helen Porter's Everyday Survival Stories: A Literary Encounter with Feminist Standpoint Theory,' *Atlantics*, Vol.24, No.1. pp. 122- 133.

Giri, K 2012, 'Gender in Forest Tenure: Pre-requisite for Sustainable Forest Management in Nepal,' *Rights and Resources*, Washington DC, 20007, USA.

Guiriba, O., G 2010, 'The Role of Women in Environmental Conservation in Sorsogon Province, Philippines,' *4th Asian Rural Sociology Association (ARSA) International Conference*, Philippines, pp. 106-112.

Gururani, S 2002, 'Construction of Third World women's knowledge in the development Discourse,' *International Social Science Journal*, Vol. 54, Issue 154, pp. 313-323.

Halim, S 1999, 'Invisible Again: Women and Social Forestry in Bangladesh,' PhD Thesis, McGill University, Montreal, Canada.

Hammersley, M 1992, *What's Wrong with Ethnography?: Methodological Explanations*, London: Rutledge.

Hammersley, M and Atkinson, P 2007, *Ethnography*, 3rd edn., London and New York: Rutledge, Taylor and Francis Group, p.3.

Harding, S 1993, "Rethinking Standpoint Epistemology: "What is Strong Objectivity"?" in A., H and Potter, ed., *Feminist Epistemologies*, Rutledge, London.

Harding, S 2004a, 'A socially relevant philosophy of science? Resources from standpoint theory's controversiality,' *Hypatia*, Vol. 19, No. 1, pp. 25-47.

Harding, S. 2004b, *The Feminist Standpoint Reader* (ed.), Rutledge, New York and London.

Harding, S 2008, *Sciences from Below: Feminisms, Post-colonialities, and Modernity's*, London, Duke University Press.

Hekman, S 1997, 'Truth and Method: Feminist Standpoint Theory Revisited,' *Chicago Journals*, Vol. 22, No. 2, pp. 351-365.

Hesse-Biber, S 2011, *The Practice of Qualitative Research*, 2nd edition. Los Angeles, California, SAGE Publication.

High Commission of Bangladesh, Singapore 2013, *The Sundarbans: World's largest mangrove forest where lives the Royal Bengal Tiger*, viewed 5 April 2013, <http://bangladesh.org.sg/cms/index.php?option=com_content&task=view&id=85&Itemid=169>.

Iftekhar, M.S and Islam, M. R 2004, 'Managing mangroves in Bangladesh: A strategy analysis,' *Journal of Coastal Conservation*, Vol. 10, pp.139-146, EUCC; Opulus Press Uppsala.

Ho, C., and Schraner, I 2004, *Feminists Standpoints, Knowledge and Truth*, Paper No. 2004/02, School of Economics and Finance, University of Western Sydney, Australia.

Innes, J., L 2005, 'Forests in environmental protection,' *Forests and Plants*, Vol. 1, pp.1-7.

IPCC 2012, *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change, New York, USA.

Islam, K., K, and Sato, N 2012, 'Deforestation, land conversion and illegal logging in Bangladesh: the case of the Sal (*Shorea robusta*) forests,' *iForest*, Vol.5, pp. 171-178.

Islam, M.S 2011, 'Biodiversity and livelihoods: A case study in Sundarbans Reserve Forest, World Heritage and Ramsar Site (Bangladesh),' Master's thesis, University of Klagenfurt, Austria.

Jolly, R. and Ray, B., D 2006, *The Human Security Framework and National Human Development Reports: A Review of Experiences and Current Debates*, NHDR Occasional Paper 5, United Nations Development Programme (UNDP), Institute of Development Studies, Sussex, United Kingdom.

Jerome C., G., Theodore J. G., and Elizabeth, F 2009, *The Millennium Project Report on State of the Future*, United Nations, Washington, USA.

Joppe, M 2000, *The research Process*, viewed 12 March 2012, <<http://www.uoguelph.ca/hm/MJResearch/ResearchProcess/default.html>>.

Kamal, A., M., M 2013, 'Livelihood Coping and Recovery from Disaster: The Case of Coastal Bangladesh,' *Current Research Journal of Social Sciences*, Vol.5, No. 1, pp. 35-44.

Kabir, H.M.D and Hossain, J 2008, *Resuscitating the Sundarbans, Customary use of Biodiversity and Traditional Practices in Bangladesh*, Unnayan Onneshan: The Innovators, Dhaka, Bangladesh.

Kathiresan, K n.d., *Importance of Mangrove Ecosystem*, Centre for Advanced Studies in Marine Biology, Annamalai University, India.

Kawulich, B., B 2005, Participant Observation as a Data Collection Method, Forum: Qualitative Research, viewed 9 October, 2012.

<<http://www.qualitative-research.net/index.php/fqs/article/view/466/996>>.

Krishnamurthy, K 1990, 'The apiary of mangroves, in: D.F. Whigham, D. Dykijoya & S. Hejnyeds, *Wetland Ecology and management: Case studies*, Kluwer Academic press, Netherlands, pp. 135-140.

Kvale, S., and Brinkmann, S 2009, *Interviews: Learning the craft of qualitative research*, Los Angeles: Sage Publications.

Lal J. 1999, 'Situating locations: the politics of self, identity, and "other" in living and writing the text,' in *Feminist approaches to theory and methodology: an interdisciplinary reader*, New York: Oxford University Press.

Laverty, M., S 2003, 'Hermeneutic Phenomenology and Phenomenology: A Comparison of Historical and Methodological Considerations,' *International Journal of Qualitative Methods*, Vol.2, No. 3, pp. 1-29.

Leach, M 2007, 'Earth mother myths and other ecofeminist fables: How a strategic notion rose and fell,' *Development and Change*, Vol. 38, no. 1, pp. 67-85.

Mahatb, N 2010, *Women in Bangladesh*, Dhaka University Press, Bangladesh.

Mai, YH., Mwangi, E., and Wan, M 2011, 'Gender analysis in forestry research: looking back and thinking ahead,' *International Forestry Review*, Vol.13, No 2, pp. 245-258.

Maiden, J 2011, *Are you a hunter or gatherer? Understanding how men and women use the forest*, Forest News, a blog by the Centre for International Forestry Research, Indonesia, viewed 13 April 2013, <<http://blog.cifor.org/3734/are-you-a-hunter-or-gatherer-understanding-how-men-and-women-use-the-forest/>>.

Mjaaland, T 2013, 'At the frontiers of changes? Women and girls' pursuit of education in north-western Tigray, Ethiopia,' PhD thesis, University of Bergen, Norway.

Manoharan, V and Karuppasamy, R 2011, 'STUDIES ON THE PHYSICO-CHEMICAL ANALYSIS OF PICHAVARAM MANGROVES, TAMILNADU, INDIA,' *International Journal of Development Research*, Vol. 1, Issue 6, pp. 50-54.

Mellor, M 1997, *Feminism and Ecology*, New York University Press, USA, viewed 31 May 2013, <<http://www.wloe.org/what-is-ecofeminism.76.0.html>>.

Mies, M. and Shiva, V 1993, *Ecofeminism*, Zed Books, London and New Jersey.

Minichiello, V., Aroni, R., Timewell, E., & Alexander, L 1990, *In-depth Interviewing: Researching people*, Hong Kong: Longman Cheshire Pty Limited.

M.J Alam, M., G. Rakkibu and M.M. Rahman 2012, 'People's Attitudes towards Social Forestry: A Case Study in Rajshai,' *J. Environ. Sci. & Natural Resources*, Vol. 5, No. 1, pp. 217-222.

Mohanty, T., C 2003, *Feminism without Borders*, Duke University Press.

Mollett, S., Faria, C 2012, 'Messing with gender in feminist political ecology', *Geoforum*, viewed 1 February 2013, <<http://dx.doi.org/10.1016/j.geoforum.2012.10.009>>.

Nasrin, F 2012, 'Women, Environment and Environmental Advocacy: Challenges for Bangladesh,' *Asian Journal for Social Sciences and Humanities*, Vol. 1, No 3, pp.149-172.

Neumann, P. R 2005, 'Introduction' in *Making Political Ecology*, Neumann, P. R, 338 Euston Road, London.

Nhanenge, J 2011, 'An Ecofeminist Analysis' in Nhanenge, J, *Ecofeminism*, University Press of America, New York, USA, pp. 360-361.

Patton, M.Q 2002, *Qualitative Research and Evaluation Methods*, Thousand Oaks, CA: Sage.

Paul, K., B 2009, 'Why relatively fewer people died? The case of Bangladesh's Cyclone Sidr,' *Nat Hazard*, Vol. 50, pp.289-304.

Radel, C 2012, 'Gendered livelihoods and the politics of socio-environmental identity: women's participation in conservation projects in Calakmul, Mexico,' *Gender, Place & Culture: A Journal of Feminist Geography*, Vol. 19, no.1, pp. 61-82.

Reed, K and Pads kocimaite, A 2012, *The Right Toolkit; Applying Research Methods In the service of Human Rights*, Human Rights Center, University of California Berkeley, USA, pp. 1-60.

Reeves, H and Baden, S 2000, *Gender and Development: Concepts and Definitions*, BRIDGE (Gender and Development), Institute of Development Studies, University of Sussex, UK.

Rocheleau, D., Slayter, T., B and E. Wangari (ed.) 1996, *Feminist political ecology: Global issues and local experiences*, New York: Rutledge.

Roy, S 2011, 'The roles of women entrepreneurs' in land conservation for environmental security in Bangladesh,' MSS Thesis, Women and Gender Studies, University of Dhaka, Bangladesh.

Ryan, W., G and Bernard, R., H 2003, 'Techniques for Identifying Themes,' *Field Methods*, Vol.15, No. 1, pp. 85-109.

Sayed, T., Roohi, T. and Ashraf, P 2007, *Gender, Environment and Development*, International Union for Conservation of Nature and Natural Resources, IUCN, Northern Areas Programme, Pakistan.

S. Getachew 2012, 'The Gender dimension of Climate change and women's role in Environmental protection and Natural Resource Management in South Wollo, Ethiopia,' *Research on Humanities and Social Sciences*, Vol. 2, No.9, pp. 32-40.

Siddiqi, N.A 1997, 'Management of Resources in the Sundarbans Mangroves of Bangladesh,' *International News letter of coastal Management - Inter coast Network*, Special edition 1, pp. 22-23.

Stirling, A., J 2001, 'Thematic networks: an analytic tool for qualitative research,' *Qualitative Research*, Vol. 1, No. 3, pp. 385-405.

Sultana, M., A 2010, 'Patriarchy and Women's Gender Ideology: A Socio-Cultural Perspective,' *Journal of Social Sciences*, Vol. 6, No. 1, pp. 123-126.

Sultana, F 2011, 'Suffering from water, suffering for water: Emotional geographies of resource access control and conflict,' *Geoforum*, Vol. 42, no. 2, pp. 163-172.

Sun, Y., Mwangi, E., Dick, M., R., Bose, P., Shanley, P., Silva, C., F and MacDonalde, T 2012, '*Forests: Gender, property rights and access*,' No. 47, Center for International Forestry Research, Indonesia.

Sustainable Development Department (SD), and Food and Agricultural Organization of the United Nations (FAO) 2013, *Gender and Development*, viewed 19 April 2013, <<http://www.fao.org/sd/WPdirect/WPdoe003.htm>>.

The United Nations 2010, *Cyclone Aila, Joint UN Multi-sector Assessment and Response Framework*, New York, USA.

The US Army Environmental Policy Institute 2012, '*Worldwide Emerging Environmental Issues Affecting the U.S. Army*,' U.S., pp. 1-152.

Teddlie, C and Yu, F 2007, 'Mixed Methods Sampling: A Typology With Examples,' *Sage*, pp.77-100.

Thurmond, A., V 2001, 'The Point of Triangulation,' *Journal of Nursing Scholarship*, Vol.33, No.3, pp. 253-258.

Upadhyay, B 2005, 'Women and natural resource management: Illustrations from India and Nepal,' *Natural Resources Forum*, Volume 29, Issue 3, pp. 224-232.

Washbrook, E 2007, 'Explaining the Gender Division of Labor: The Role of the Gender Wage Gap,' *CMPO Working Paper: 07/174*, pp. 1-89, submitted to the University of Bristol, UK.

Wan. M, Coller. C.J.P, and Powell, B 2011, 'Forests, women and health: opportunities and challenges for conservation,' *International Forestry Review*, Vol. 13, No.3, pp.369-387.

Westing, A. H 1989, 'The Environmental Component of Comprehensive Security,' *Bulletin of Peace Proposals*, Vol. 20, No. 2, pp. 129-134, SAGE Publications.

World Health Organization 2009, *Gender, Women and Health*, Regional Office for South-East Asia, viewed 23 March, 2012, <
http://www.searo.who.int/en/Section13/Section390_8282.htm>.

Annex 1:

In-depth Interview Guide¹⁵

Sundrabans forest

- Describe, in detail, your understanding of the Sundarbans.
- When and how did you become acquainted with the forest?
- Do you require any permission to access to the forest? Share your personal experience.
- What is the preferable time for going to the forest?
- Who goes to the forest, and for what?
- Tell us about the clothes the women and men wear when they go to the forest.
- What are the rituals area inhabitants' practices before going to the forest?
- Narrate the available resources of the Sundarbans Forest, and what types of forested resources you collect.
- Tell me the name of the instruments you use when you collect resources from the forest.
- How do you shift the collected resources from the forest?
- According to you, who is involved in processing the collected the resources for the market, and how does the process function?
- What are the benefits people obtain from the forest?
- Describe the area inhabitants' relationship with the forest, and how it changes over time.

Informant's behaviors with the forest and its resources

- Are there any differences in using instruments and collecting forest resources? If so, share your experiences.
- How do women collect fish, leaves, and timbers and how do they interact with the collected resources at home?
- To what extent, and by whom, is the forest used in a sustainable way?
- Tell me, how the forest resources are sold in the market, and financially who is benefitted?

¹⁵ This document is just a guideline for conducting unstructured interviews during the fieldwork.

- Tell us about the social barriers women face when they go to forest, and when they attempt to sell the forest products in the local market.
- What are the obstacles the women face when they influence the familial decision making process?
- Tell me, in details about the people's activities about forest conservation.

Environmental Security

- Do you feel that you are living in a secure environment? How was the ecological system of the village when you were a bit young? Describe the crops, and habitation of the people of Shora.
- Describe the recent environmental degradation that has occurred in the area.
- According to you, what are the likely reasons responsible for the degradation of local ecosystem, as well as the forested ecology?
- Tell me your experiences about the cyclones that have occurred at Shora.
- Tell me in detail about the scarcity or availability of the environmental resources required for leading a safe life.
- Describe the relationships between the people and the forest.
- Share with me how the cyclones hampered the environmental security of the area.
- What is the relationship between the Sundarbans forest and environmental security?

Annex 2:

Key words used in Focused Group Discussion¹⁶

Sundarbans

Religious practice

Men

Women

Widow

Divorced women

Bidobapolle

Condition of the forest

Corruption

Use of the forest resource

Livelihood

Forest going habits of men and women

Allocation of the benefits gained from the forest resources

Forest conservation

Tiger attacks

Patrolling system

Sidr

Aila

Environmental security

Ecological protection

Forest and people's relation

¹⁶For the gathering of the rich data, and convenience of the participants, I had used keywords during focused group interviews.

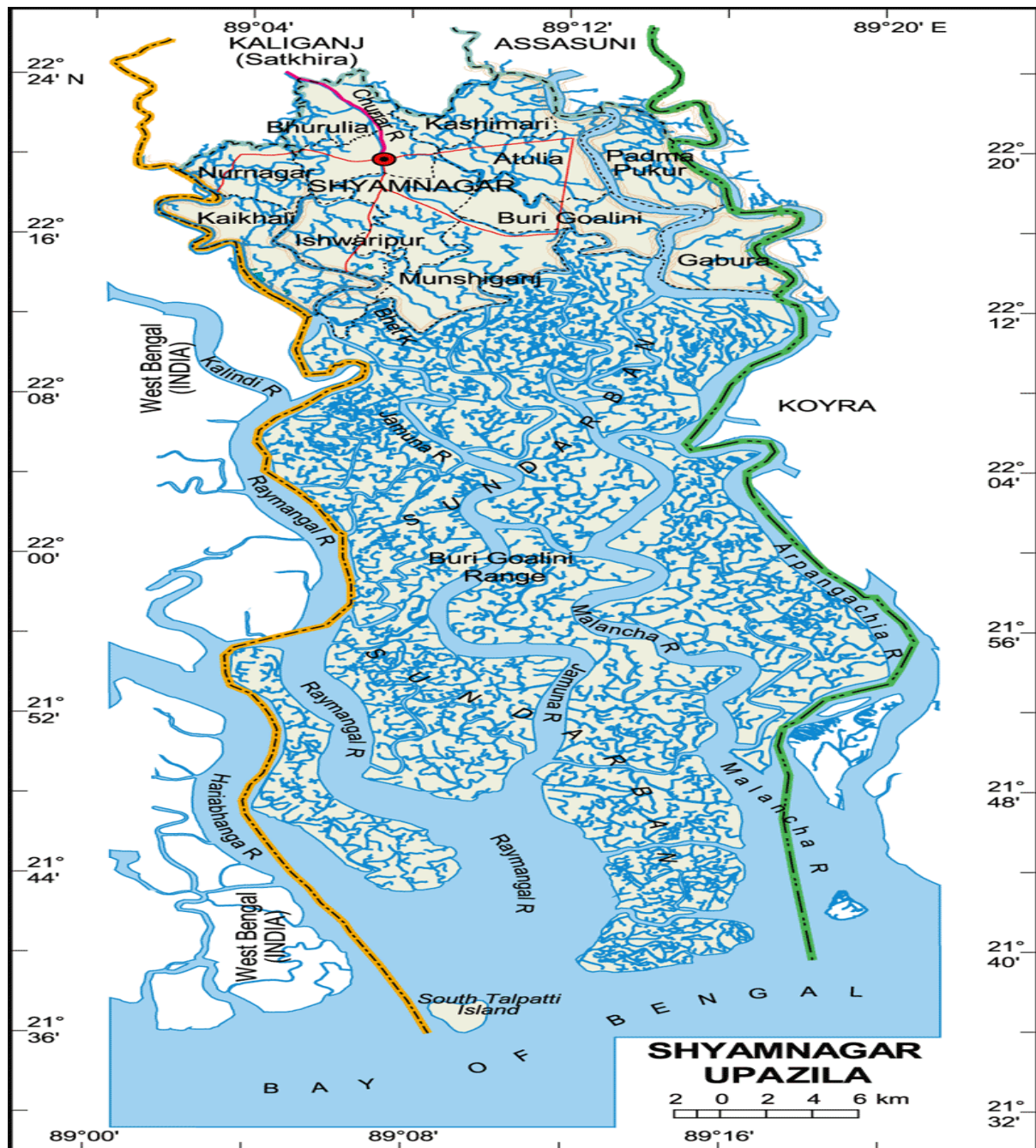
**Figures:
Map of Bangladesh**



Source:

https://www.google.no/search?hl=no&site=imghp&tbm=isch&source=hp&biw=1264&bih=961&q=geographical+map+of+Bangladesh&oq=geographical+map+of+Bangladesh&gs_l=img.3..0i19.3260.9788.0.10105.30.14.0.16.16.0.71.864.14.14.0...0.0...1ac.1.12.img.sUHuSS9Y1LM#imgsrc=3xWthutTDG2UrM%3A%3B8L6ctn3Da5h7UM%3Bhttp%253A%252F%252Fen.18dao.net%252Fimages%252Fen%252Fen4%252FMap-Bangladesh.jpg%3Bhttp%253A%252F%252Fwww.sortol.com%252Fgg%252F5626.htm%3B999%3B1050

Map of Shamnagr, Satkhira



Source:

https://www.google.no/search?hl=no&site=imghp&tbm=isch&source=hp&biw=1264&bih=961&q=Gabura+Union%2C+Shamnagar+Upazilla%2C+Satkhira&oq=Gabura+Union%2C+Shamnagar+Upazilla%2C+Satkhira&gs_l=img.3...2063.10441.0.10652.42.6.0.36.36.0.67.374.6.6.0...0.0...1ac.1.12.img.2jICJwm_B1s#imgsrc=JpFjK5W1zx8eEM%3A%3B1eUXSG9PeFTUtM%3Bhttp%253A%252F%252Fcscanda.net%252Findex.php%252Fcsc%252Farticle%252FviewFile%252F2874%252F3328%252F4480%3Bhttp%253A%252F%252Fcscanda.net%252Findex.php%252Fcsc%252Farticle%252Fview%252Fj.css.1923669720120805.1040%252F3328%3B367%3B179